JANUARY 1992 $3.95 U.S. / $4.95 CAN.

SPECIAL ANNIVERSARY DOUBLE ISSUE

analog

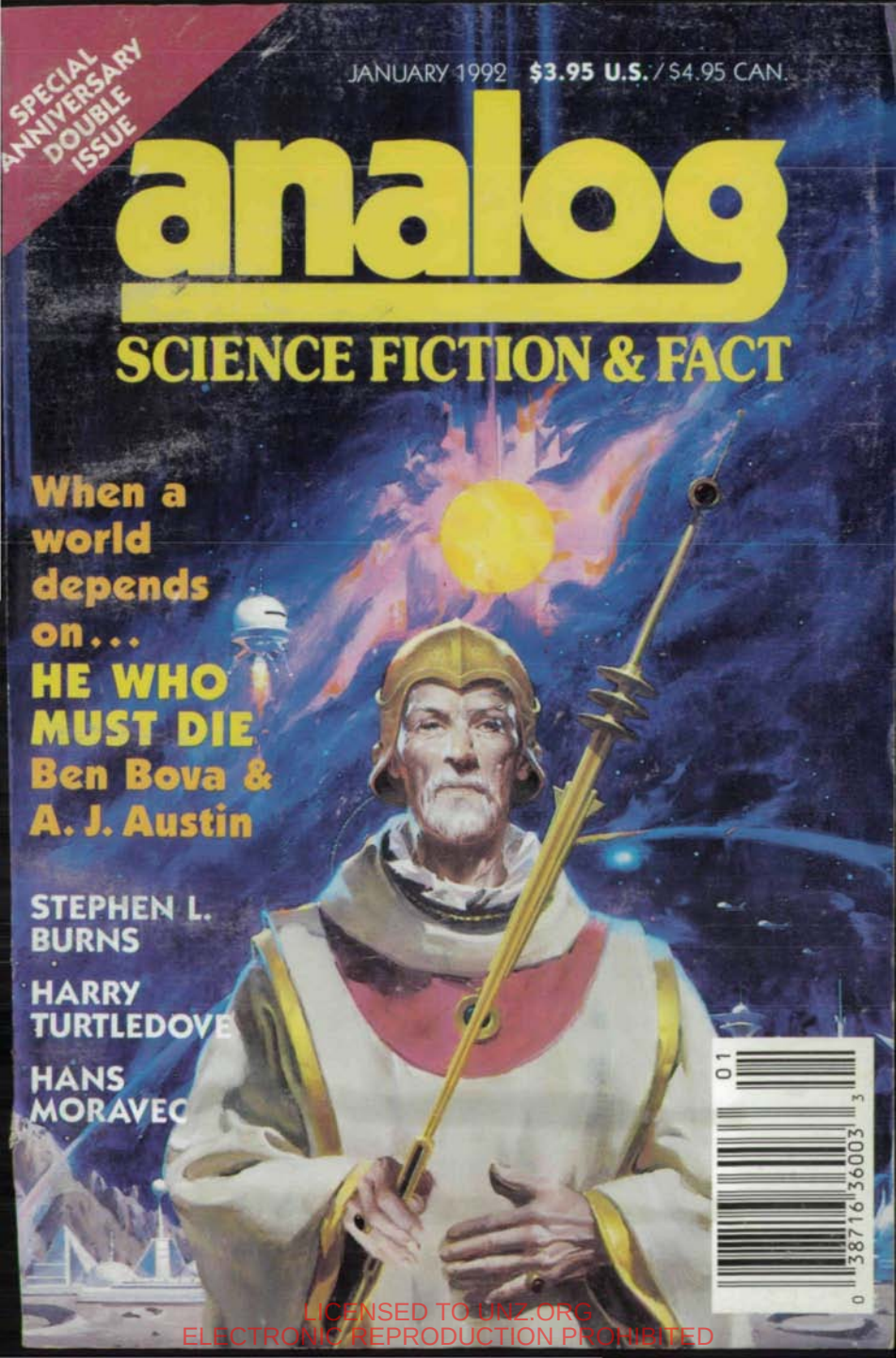
SCIENCE FICTION & FACT

When a world depends on...
HE WHO MUST DIE
Ben Bova & A. J. Austin

STEPHEN L. BURNS

HARRY TURTLEDOVE

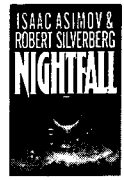
HANS MORAVEC



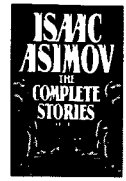
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

4798 $24.95/$12.98

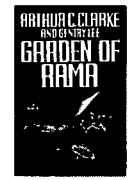
5397* $27.95/$13.98



4770 $19.95/$10.98



5785 $22.95/$11.98



7866 $20.00/$10.98

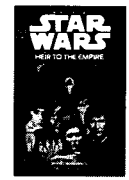
3020 $19.95/$9.98

6742 $20.00/$9.98

6460* $8.98x

5498 $20.00/$9.98

4820 $18.95/$9.98



7625++ $15.00/$6.98

0786+ $7.98x

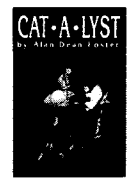
7484 $19.95/$9.98

5413 $8.98x

7641 $20.00/$10.98

5074 $6.98x

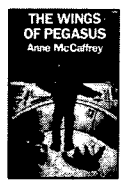
7674 $19.95/$7.68



7658 $5.98x

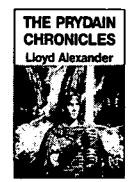
7260 *Woundhealer's Story, Sightblinder's Story, Stonecutter's Story*
$45.85●/$8.98

5017 *Farslayer's Story, Coinspinner's Story, Mindsword's Story*
$50.85●/$13.98



5108 *To Ride Pegasus, Pegasus in Flight*
$39.90/$12.98

4747 *So You Want To Be a Wizard, Deep Wizardry, High Wizardry*
$45.85●/$12.98



5595 5 novels plus *The Foundling And Other Tales of Prydain*
$83.70●/$13.98

7609* *The Book of the Damned, The Book of the Beast*
$39.90●/$10.98

HERE'S WHAT YOU GET WHEN YOUR MEMBERSHIP'S ACCEPTED . . .

A GUARANTEE OF SATISFACTION. If you're not 100% satisfied with your books, return them within 10 days *at our expense.* Membership will be canceled and you'll owe nothing.

HUGE DISCOUNTS ON HARDCOVER BOOKS. Save as much as 65% off publishers' edition prices. Club books are sometimes altered in size to fit special presses.

THE FREE CLUB MAGAZINE. You'll receive up to 16 issues a year. Each issue reviews 2 Featured Book Selections plus a number of alternate books from the Club's extensive library.

SHOPPING MADE SIMPLE. To get the Featured Book Selections, *do nothing*—they'll be sent automatically. If you prefer another book—or none at all—simply return your Member Reply Form by the date shown. A shipping and handling charge is added to each order.

AN EASY-TO-MEET OBLIGATION. Take up to 2 years to buy 4 more books at regular low Club prices. Afterwards, you may resign membership anytime.

RISK-FREE RETURN PRIVILEGES. If you get an unwanted book because your Club magazine was delayed and you had less than 10 days to respond, simply return the book *at our expense.*

Prices in fine print are publishers' hardcover editions.
Prices in bold print are Club hardcover editions.

● Combined publishers' editions * Explicit scenes and/or language
ɪ Hardcover edition exclusively for Club members

+ Copyright © 1991 Paramount Pictures. All Rights Reserved.
STAR TREK and Related Marks are Trademarks of Paramount Pictures.

++ TM and © 1991 Lucasfilm Ltd. All Rights Reserved.
Used Under Authorization.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Son, it's time. *Witch* 5 for $1 do you want for joining now?"

5199 Nonfiction $21.95/$8.98

1388 $7.98x

3947 $19.95/$10.98

0752 *Elric of Melnibone, The Sailor on the Seas of Fate, The Weird of the White Wolf* $8.98x

1172 *The Vanishing Tower, The Bane of the Black Sword, Stormbringer* $10.98x

0299 *FirstFlight Grounded!* $12.98x

Choose any 5 for $1 with membership

THE Science Fiction BOOK CLUB®

MAIL TO: *The Science Fiction Book Club*
6550 East 30th Street, P.O. Box 6367
Indianapolis, IN 46206-6367

Please write book numbers here:

YES! Please enroll me in *The Science Fiction Book Club* according to the risk-free membership plan described in this ad. Send me the 5 BOOKS I've indicated. Bill me just $1, plus shipping and handling.

SAVE MORE—BUY YOUR FIRST BOOK NOW FOR $2.98
☐ Send me the book I've indicated and reduce my commitment to only 3 more books. Bill me just $2.98, plus shipping and handling.

(write book number)

27812 33

Mr./Mrs.
Miss/Ms. _____
please print

Address _____ Apt. _____

City _____ State _____ Zip _____

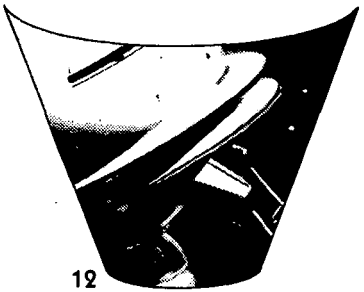
27813 31

If you're under 18, your parent must sign here _____

Members accepted in U.S.A. and Canada only. Canadian members serviced from Canada, where offer is slightly different. Sales tax added where applicable. We reserve the right to reject any application. ANA 1/92

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

analog



12

Vol. CXII No. 1 & 2
January 1992

Next issue on sale
January 7, 1992

Novellas

HE WHO MUST DIE, Ben Bova & A.J. Austin ____ 12
CITY OF DREAMS, Daniel Hatch ____ 102
TRANQUILLITY ROSE, Stephen L. Burns ____ 238

Novelettes

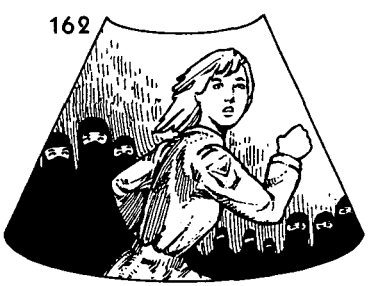
SECRET NAMES, Harry Turtledove ____ 76
AN EMPTY WHEELHOUSE, Sean McMullen ____ 142
TABOOS, Mary Caraker ____ 162
TTCB, William Walling ____ 178

Science Fact

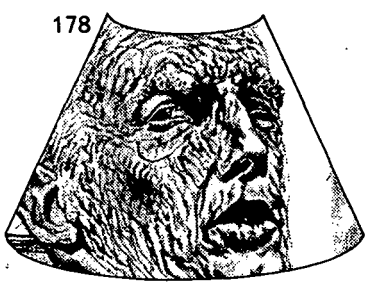
THE UNIVERSAL ROBOT, Hans Moravec ____ 92

Short Story

AN EVENING AT DEMPKE'S, Janet Lorimer ____ 214



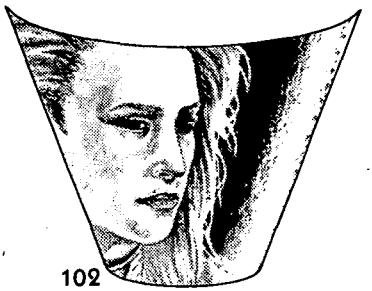
162



178

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

analog



102

State of the Art

CONTACT IN THE CLASSROOM, Greg Barr ____ 228

Reader's Departments

THE EDITOR'S PAGE ____ 4
BIOLOG, Jay Kay Klein ____ 75
BRASS TACKS ____ 159
THE ALTERNATE VIEW, John G. Cramer ____ 208
IN TIMES TO COME ____ 213
THE REFERENCE LIBRARY, Tom Easton ____ 306
INDEX ____ 317
THE ANALOG CALENDAR OF UPCOMING EVENTS ____ 320

Cover by Vincent Di Fate

Joel Davis
President

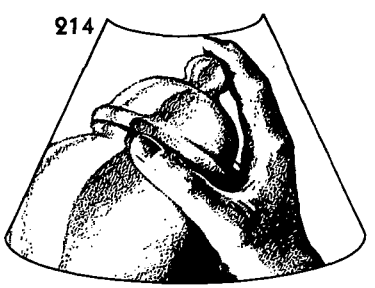
A. Bruce Chatterton
Publisher

Stanley Schmidt
Editor

Tina Lee
Managing Editor

Terri Czeczko
Art Director

Indicia on Page 5



214

238

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Editorial

GOD BY DEFAULT

Stanley Schmidt

We live in a time when practically every day we hear questions that were seldom, if ever, asked seriously by previous generations. When should an organ transplant be used to save a person's life? What kinds of birth control, if any, should be allowed? Should prospective parents be allowed to choose the sex of their offspring? Should genetic engineering be used to improve the health or intelligence of people not yet born?

Until recently, such questions were widely viewed as "just science fiction," and not matters that needed serious answers for real, practical application. It didn't matter whether anybody thought people *should* do such things, because nobody *could* do them. All that has changed. Many such questions are already being faced daily by real couples and real courts, and many others are waiting in the wings, ready to make their entrances.

Quite often, though, the answer given to these unprecedented questions is a very old and automatic one: "Man must not play God!" The idea may or may not be couched in such theological terms, but the sentiment is the same: that some things are best left to whatever forces controlled the course of events before humans gained the ability to intervene.

There's a big, central irony in such an argument which is seldom recognized by people who espouse it. As we learn to do more things, it will grow ever more important that all of us recognize and come to terms with that irony.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Once you have the ability to "play God," you cannot avoid exercising it—because even the decision not to use an ability is a decision with consequences.

And whoever makes that decision, whichever way it goes, must bear the responsibility for its consequences. You may play God by affirmative action or by default, but you *will* play God, whether you want to or not—because once you have the ability, you *must* decide what to do with it.

Example: a while back I suggested that when we can (which does not seem far off), we should genetically remove the tendency to grow wisdom teeth and vermiform appendices, both of which frequently cause their owners trouble and do not appear to do much useful. I did not propose to rush headlong into this venture, doing it immediately to everybody, but rather to try it on a sizable experimental group and later expand it to the general population if and only if it proved to be the unmixed benefit that it might.

Predictably, the precautions I suggested made no impression on those readers whose alarm bells were set to go off at the very mention of genetic engineering. I was warned in no uncertain terms that parents had no business authorizing such tinkering with their progeny's DNA, and might well find themselves being sued when their children were old enough to understand what happened.* I countered that while that was how *they* see it, those children might see it very differently. E.g., someone who was suffering wisdom tooth problems, while all his friends had had them genetically prevented before birth, might well want to sue his parents for negligence for *not* having done it to him.

Do you need more familiar examples? No one could expect you to rescue an injured explorer stranded six days' walk across desert with only one day's supply of water, if walking is the only way you have to reach him. But if you have a helicopter and you know he's there, it would be hard to make a moral case for *not* going to get him. Nobody could blame you for catching smallpox and infecting your neighbors, back when nobody understood how it spread and vaccinations were unavailable. But to take a vacation unprotected in a place where the disease was known to be endemic, in an era when vaccination is

*Nobody mentioned that parents already authorize all manner of tinkering with their babies' bodies, up to and including unnecessary surgery, and hardly anybody ever claims to see anything wrong with that. Could the *real* object of fear be unfamiliarity?

Analog Science Fiction & Fact (Astounding) is published every 28 days which includes special issues in January and July by Davis Publications, Inc. at $2.50 a copy in U.S.A., $3.95 in Canada. 1 year subscription for $34.95 in the U.S.A. and possessions, in all other countries, $40.50 (GST included in Canada, GST #R123993198) payable in advance in U.S. funds. First copy of new subscription will be mailed within eight weeks of receipt of order. When reporting change of address allow 6 to 8 weeks and give new address as well as the old address as it appears on the last label. Second-class postage paid at New York, NY, and at additional mailing office. Canadian 3rd class postage paid at Windsor, Ontario © 1991 by Davis Publications, Inc., all rights reserved. Protection secured under the Universal Copyright Convention. Reproduction or use of editorial or pictorial content in any manner without express permission is prohibited. All stories in this magazine are fiction. No actual persons are designated by name or character. Any similarity is coincidental. Printed in U.S.A. All submissions must be accompanied by stamped self-addressed envelope, the publisher assumes no responsibility for unsolicited manuscripts or artwork.

POSTMASTER: SEND to ANALOG SCIENCE FICTION & FACT (ASTOUNDING) P.O. BOX 7061, Red Oak, IA 51591.
IN CANADA RETURN TO 1801 SOUTH CAMERON, WINDSOR, ONT. CANADA N9B 3E1
Editorial and Advertising: Analog Science Fiction & Fact, 380 Lexington Avenue, New York, NY 10168-0035
Subscriptions: Analog Science Fiction & Fact, P.O. Box 7061, Red Oak, IA 51591 ISSN 0161-9398

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

widely available, would be a serious offense against society.

Before going any further, I should emphasize once more that my arguments here are *not* an attack on religion in general or any religion in particular. They are directed rather at *anyone* who has a simplistic idea that certain things should not be done because they interfere with things that used to occur without conscious human participation. Some people use the "playing God" objection and mean every word of it literally. Others use it as a metaphor without actually having any theological convictions themselves. Still others avoid such terminology altogether. A wide range of people share the idea, for whatever reason, and it is that idea that I'm questioning.

Few apply it *consistently*, of course. Carried to its truly logical extreme, it implies that *any* action we take on our own is an interference with divine will or its secular counterpart (a view which might in turn be considered, by some, a divine cop-out). Such a conclusion is clearly incompatible with the sentiment "God helps those who help themselves," often heard even from quite religious people. My favorite example of the inconsistency of such views was a line I remember from a letter to the editor of another magazine some decades ago, to the effect that if the Good Lord had meant us to run around without any clothes on, we would have been born that way.

An exceedingly important and pervasive consequence of being human—of being a member of a species that likes to learn new things and adapt to new

STANLEY SCHMIDT ..... Editor
TINA LEE ..... Managing Editor
IAN RANDAL STROCK ..... Assistant Editor
SCOTT L. TOWNER ..... Assistant Editor
A. BRUCE CHATTERTON ..... Publisher
TERRI CZECZKO ..... Art Director
ANTHONY BARI ..... Junior Designer
CAROLE DIXON ..... Production Director
CYNTHIA MANSON ..... Director of Marketing and Subsidiary Rights
CONSTANCE SCARBOROUGH .. Contracts Manager
VEENA RAGHAVAN ..... Director, Special Projects
CHRISTIAN DORBANDT ..... Newsstand Marketing and Promotion Manager
DENNIS JONES ..... Newsstand Operations Manager
ELIZABETH BEATTY ..... Circulation Director
PHYLLIS JESSEN ..... Circulation Planning Director
JUDY DORMAN ..... Advertising Coordinator
IRENE BOZOKI ..... Classified Advertising Director
BARBARA ZINKHEN ... Classified Advertising Manager

Published since 1930.

JOEL DAVIS
President

CARL BARTEE
Vice President
Manufacturing

JOE DeFALCO
Vice President
Finance

MARY TZIMOKAS
Vice President
Circulation

First issue of *Astounding* January 1930.

ADVERTISING OFFICES
NEW YORK
(212) 557-9100

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The latest novel
in the bestselling
GUARDIANS OF THE FLAME
Series

THE ROAD TO EHVENOR

JOEL ROSENBERG

Something was distinctly wrong when the great sea serpents rose from ocean depths, when livestock was swallowed whole by an unseen menace, and when wolfpacks ran to shape changers. Jason Cullinane, son of the legendary Karl, and his companions could not ignore the pleas of those they were sworn to protect—and found themselves on the road to Ehvenor, a road on which one missed step might be their last....

A high fantasy quest of magic and mystery, THE ROAD TO EHVENOR is Joel Rosenberg's best yet, a masterful blend of swordplay, action and adventure.

$19.95
0-451-45140-6

ROC FANTASY
HARDCOVER
Penguin USA

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

circumstances—is that every time we increase our abilities and hence our options, we increase the number of choices we must make. Some may view this as a burden. (Probably most of us would occasionally, such as when we're shopping for a piece of electronic equipment in a market that has not achieved much standardization!)

The need to make fewer choices may actually be, to a certain extent, an advantage of a relatively primitive and/or rigid society. Just a few years ago our culture, for example, defined the roles men and women were expected to play much more precisely than it does now. There are people even now who were more comfortable with that. Some people would *rather* be told what to do than decide for themselves.

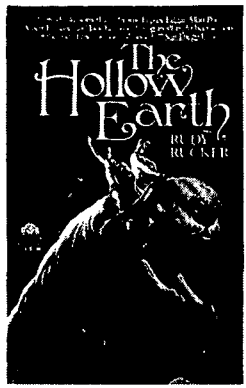
I'm not one of them, and I doubt that you are either. People who have their own ideas about how to live tend to get very frustrated in a society that requires them to fit a prefabricated pigeonhole. Moral: you can't satisfy everybody. Different kinds of people thrive in different kinds of societies. One of the advantages of a *mobile* society is that people who don't like to make too many of their own choices can choose to move to a subculture where things will be spelled out for them!

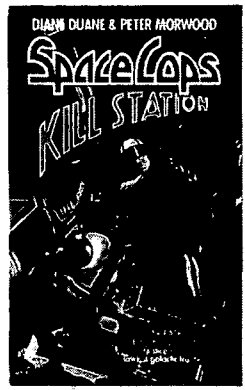
When we hear people longing to return to a "simpler" time or place, I think a large part of what they're longing for is that need to make fewer hard choices. (They tend to overlook inconvenient side effects that come with the territory, like short, circumscribed lives.) Many objections to "playing God" probably have a similar motivation. When you have, and admit you have, a new ability, you have to make decisions about what to do with it. So if you persist in learning to do new things, the world will become more complicated. Many people would be happiest if we simply didn't learn certain things at all ("There are things man was not meant to know . . . "). If some of their fellows perversely insist on doing so anyway, the next best thing, for them, is to pretend that the knowledge isn't there, and legally banish the new ability from the list of available options.

Sometimes not using an ability actually is the best choice, in a particular case if not in general. It can be excessively tempting to use a new ability in every conceivable way, much as a child will spend days playing with an especially nifty new toy, or asking "Why?" constantly as soon as he discovers the concept. Exhilarating as it can be to invent or discover something new, it's a good idea to remind ourselves periodically that "can" does not always mean "should."

Computers, for example, can make easy many jobs that were prohibitively time-consuming without them. In principle, this should free up a lot more time for things people would like to do. In practice, it sometimes means that people who have discovered computers start doing everything they can imagine with them, and eating up their free time doing things they wouldn't have considered worth doing at all before. Yes, a computer will make you *able* to do a vast number of new things—but it's still worthwhile to ask critically which ones *deserve* to be done.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED





AVON BOOKS

THE FINEST IN SCIENCE FICTION

TAKE BACK PLENTY
Colin Greenland

Winner of both the Arthur C. Clarke and the British Science Fiction Association's Awards for best novel of the year.

"It's all brought together in a mighty whoosh of revelation that holds you shocked to your seat. One of the most compulsive space-spectaculars in years!" —*The Times of London*

THE HOLLOW EARTH
Rudy Rucker

A witty and inventive alternate history involving Edgar Allan Poe and a journey to the center of the Earth, by the acclaimed author of *Software* and *Wetware.*

"Think of Huckleberry Finn on drugs... a series of wild adventures. From beginning to end, a delight." —*Locus*

SPACE COPS: KILL STATION
Diane Duane and Peter Morwood

The exciting continuation of a hi-tech science fiction adventure series involving a team of space marshals who patrol the frontiers of our solar system.

Look for the next installment, *Space Cops: High Moon,* this May!

COMING IN JANUARY 1992

AVON BOOKS
The Hearst Corporation

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Another computer example: when Apple brought out HyperCard, putting hypertext capabilities in the hands of Macintosh users, many users were so intrigued by the fact that they *could* link everything to everything else that they apparently felt that they *had* to link everything to everything else. I was lucky: I didn't have a hard disk when I got HyperCard. Other users have often seemed astonished that I had been able to do useful things with HyperCard without a hard disk. The explanation is simple: when I learned HyperCard, I did not have the luxury of linking everything imaginable. I *had* to ask which links would be really useful, and install only those, and install groups of related stacks and files on a single floppy to avoid disk-swapping.

We can look forward to many other situations where we are going to have to make choices about whether and how to use things we've learned to do. In the ongoing controversy about what should be done about human population, some readers have chided me for suggesting that any attempt needs to be made to limit it. Future technology, they say, will make it possible for the Earth to support many more people than it already does, as well as letting some of them move into space. This is no doubt true—but to what extent is it desirable? I can easily imagine ways in which we could cram far more humans onto the Earth than we presently have. Some of them would probably even like living on that kind of Earth, but many of us wouldn't. Conversely, if we can limit the population to a specified level, how and to what extent should we do that? When, if ever, should we remake another planet to house humans? We can keep an individual human being more or less alive long past the point of "natural" death, but when should we?

All such questions will require decisions—and we cannot avoid making them. The decision *either* to continue or to discontinue "heroic measures" is a "playing God" type of choice. The more things you are able to do, the more choices you must make, and the more important it becomes that those choices be made wisely.

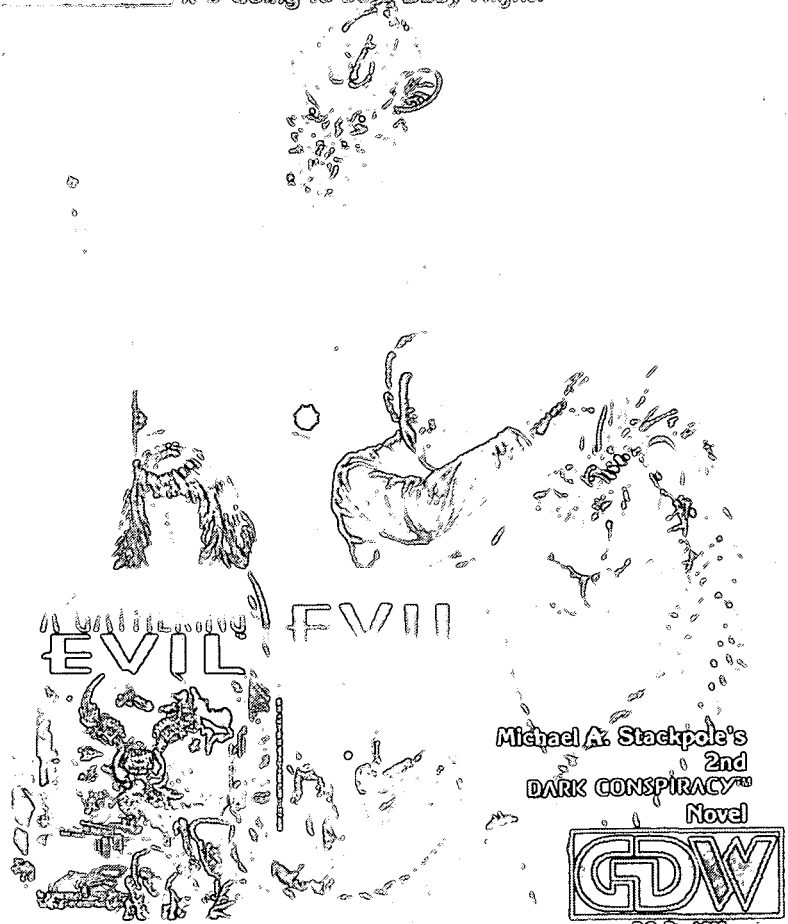
And I do mean that choices "must" be made. Once an ability exists, it is no longer possible to avoid a decision about using it. Even the decision not to use it is a choice whose consequences must be weighed. Once you *can* "play God," you have to—so you might as well try to do it skillfully and conscientiously. Sometimes not using an ability is the best choice—but to say *a priori* that using it is categorically wrong because it's "playing God," is to shirk the responsibility that comes with knowledge. ■

MOVING? If you want your subscription to *Analog* to keep up with you, send both your old address and your new one (and the ZIP codes for both, please!) to our subscription department: Box 7061, Red Oak, Iowa 51566.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

EVIL ASCENDING

Tibetan Monastery...
An Alien Fugitive...
A Relentless Pursuer from Another Dimension...
It's Going to be a Busy Night!



Michael A. Stackpole's
2nd
DARK CONSPIRACY™
Novel!

GDW

P.O. Box 1646

GDW 2150 $4.95
ISBN 1-55878-002-0

GDW 2151 $4.50
ISBN 1-55878-003-9

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

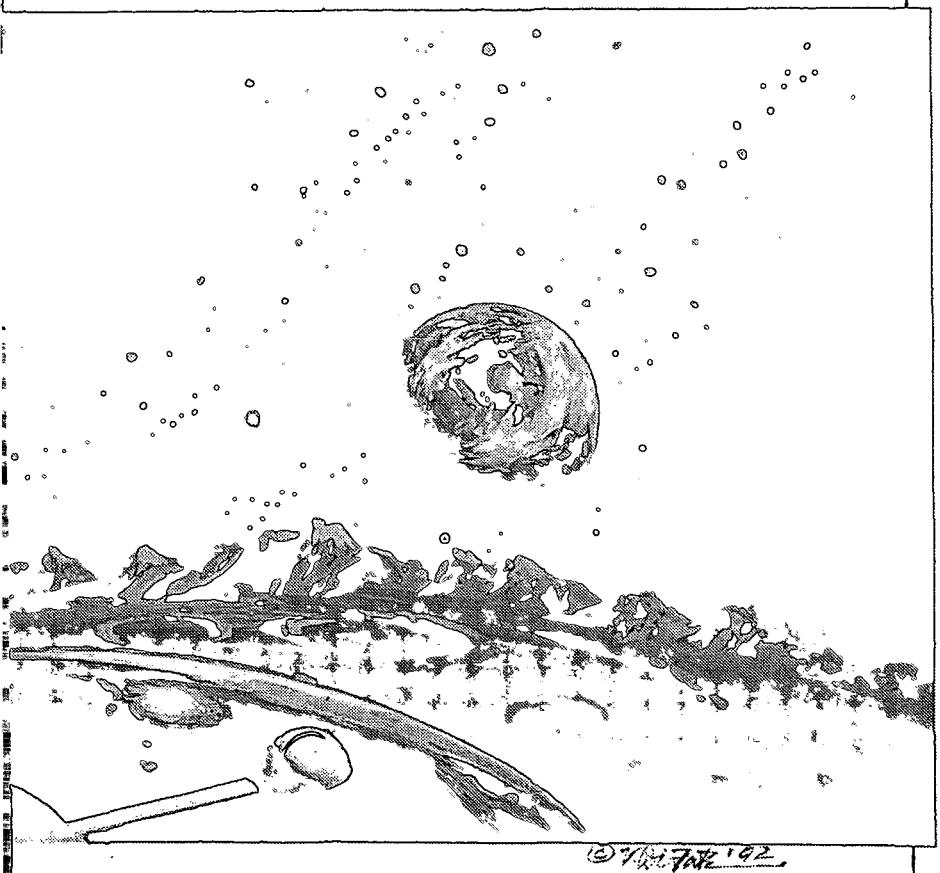
Vincent Di Fate

Ben Bova & A. J. Austin

A big project depends on a few individuals to sell, drive, and sustain it. When it's *so* big that it dwarfs the lifetime of one of those individuals . . .

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

HE WHO



MUST DIE

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

PROLOGUE

Stagnation was the price the Hundred Worlds paid for centuries of peace and stability. Alone among the leaders of the time, the Emperor realized that his realm was stagnating, but could find no way to revitalize the Empire.

He found his opportunity, at last, in disaster.

Earth's Sun was about to enter a period of instability. It would not explode, like a nova, but would emit gigantic flares and prominences that would boil away the atmosphere and oceans of Earth, the birth world of humankind.

The common wisdom at the Emperor's court was that Earth must be abandoned. It had become little more than a backwater among the Hundred Worlds anyway; its minuscule population could be resettled safely on other planets.

The Emperor, born of Earth as was traditional in those times, thought otherwise. He found a scientist, a young woman held in scant esteem by the Imperial Council of Academicians, who proposed a generations-spanning project to save the Sun.

Everyone scoffed at her grandiose plan, of course. Everyone except the Emperor. He backed her, against the resistance and eventual hatred of the academicians. He moved the Imperial court from planet Corinth to Earth's Moon, deliberately to enforce his desire to save the Sun—and thereby reinvigorate his Empire.

But he was an old man, the Emperor; close to death. Many there were who thought that it would be for the good of the Empire to hasten him toward his end. Everything depended on the successor to the throne, the Crown Prince, Javas.

And on the old Emperor's unbendable will.

1: Arrival

Anastasio Bomeer hated the dress tunic he was desperately trying to button properly. He hated the way it pinched at his neck, and the way it made him stand straighter and more formally—against his will—when at public gatherings. He hated the fact that court protocol required the ancient-looking academician's garb and wished, not for the first time, that tradition would allow a more modern, more comfortable, Imperial uniform jacket instead. But above all else, he hated the occasion for the attire. A ceremony with little more purpose than to impress a gathering of Earthers?

Damn! he thought. *What have they done to this*—With a last grunted effort he managed to get the stiff collar of the tunic fastened and stood, nearly out of breath at the exasperating effort of merely getting dressed, staring at himself in the full-length mirror in his plush suite.

His face had reddened, and the skin of his neck lapped ever-so-slightly over the constricting collar. Had the tunic shrunk? Surely he had not put on that much weight in his relatively short stay on the Moon. Glancing at the straining buttons midway down the front of the dress tunic he frowned deeply, remembering that this was only the second time he'd donned the outfit in the whole year since his arrival. The first had been on the dreadful day he'd landed here, beginning what he considered a near-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

exile on Earth's only natural satellite.

Angrily inserting a finger into each side of the collar he tugged hard, nearly cutting off his windpipe, and managed to loosen the fit slightly. Or at least enough that the redness began to slowly drain from his face. A small sound, like a single chime, stopped him before he could wrestle with the collar again.

"Wait," he said aloud, moving back into the living area. He glanced quickly at the identification banner on the comm screen before accepting the call. "Audio only. Answer."

The screen brightened, showing the youthful face of his personal aide. "Academician Bomeer," the image said urgently. "You asked to be kept informed of the Emperor's progress—"

"Yes, Kandel; go on." He crossed to the wide expanse of ray-shielded plastiglass that made up the entire far wall of the suite and gazed out at a barren landscape that had been described by one of the earliest explorers as "magnificent desolation." Where others found beauty, he found only revulsion.

"Well, sir, we've been informed that his shuttle will pad down in ten minutes."

Ahead of schedule, Bomeer thought. *Just like the old fool.* He leaned close to the surface of the window and squinted into the distance where a bright pinpoint approached rapidly from the east. From his vantage point he might be able to see the entire approach of the lander as it skirted the edge of the city on its way to the landing area.

"Academician?"

Without turning: "Thank you, Kandel. That will be all." There was a tiny *chirp* sound as the aide disconnected.

Bomeer stared solemnly over the lunar landscape. His suite on the north side of Armelin City had one of the best views of any of the lunar cities. With most of the industrial and support buildings located to the south and west, tenants at this level paid dearly for the pristine scenery unobstructed by the towers, receiving dishes, and traffic patterns which were common sights from most of the residential areas. Those that even *had* windows, that is.

He watched the approaching dot of light for several moments, and as it grew larger confirmed it to be the Emperor's shuttle.

"I never believed that I would think of you in as shameful a manner as I do now," he whispered. The ship moved steadily closer, oblivious to his mutterings. *Save Earth's Sun?* he thought, his frown reflected in the surface of the plastiglass. *Save these Earthers?*

He went to the couch and sat stiff-backed on the edge of one of the cushions, again cursing the tunic under his breath, and touched the keypad set into the bottom of the comm unit, entering a series of coded numbers. After several long seconds, a grey-haired man wearing formal attire closely matching Bomeer's appeared. He noted with satisfaction that the collar of the man's tunic was still undone.

"Anastasio! I was just about to—"

"There's been a change," Bomeer interrupted. "His shuttle is already on its way."

An expression of surprised shock spread across his features. "But he wasn't due for nearly an hour! We can't possibly assemble in time."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"My thought exactly. This is Javas's work, Wynne, I'm sure of it. He's purposely having the Emperor arrive early, hoping to catch us off guard, hoping to get whatever edge he may to gain the support of the Hundred Worlds for this foolish plan of his father's."

The other nodded thoughtfully, just a hint of anger in his eyes.

"Listen," Bomeer continued, glancing at the gold timepiece on his wrist, "I'm leaving straightaway. His shuttle is landing right about now, but it should be at least another twenty minutes before his party appears on the platform. I think I can arrive before then."

"And the rest of us?" The other man deftly buttoned the collar on the tunic and smoothed the satiny fabric with the palms of his hands, further annoying Bomeer.

"Gather as many of the others as you can, and get down there. Use this same code once I've broken the connection." Bomeer touched the keypad once to send the code to the other terminal, waited a moment for a nod of confirmation that it had been received, then touched the disconnect bar, being certain to leave the code in place on his own unit.

He glanced once around the room. "Lights at half. Security on." The room lights dimmed immediately.

Nice try, Javas, he thought as he quickly exited the room. *But you haven't won this round yet.*

On the other side of Armelin City, in his private receiving chamber near the shuttle landing pad, Prince Javas frowned.

"I'm sorry, sire," the synthesized voice of the comm unit repeated, "but the circuit is still engaged. A code lock is in place. Shall I implement an override?"

He could have Bomeer's code lock broken, of course. One word from the acting Emperor could not only have the circuit opened in less than a millisecond; but could also have reprimand orders cut, processed, filed and sent to whichever technician had installed the system in the academician's suite. But there was no need; knowing that Bomeer was still at home was all the information he needed just now.

"No. However, please monitor the circuit and inform me when it is clear." The unit responded with a confirming chirp, and the blue screen dimmed immediately.

The Prince allowed himself a moment of wry pleasure as he wondered what the man was up to. He was certain he'd caught Bomeer and his cadre of academicians unprepared by insisting that the shuttle arrive early. Commander Fain had protested, of course, as had most of his father's attending court when he'd made the suggestion via holoconference earlier that morning. But an insistent nod from him and a knowing look from the Emperor was all it took for the order to be put into action.

How odd, he thought idly. *And how close we seem to have become; how like each other we seem to think.* Had the years of separation really made that much difference in the way he thought? Or was it the experience gained from nearly twelve years as acting Emperor? In the past month, as his father's ship drew ever closer to Earth, the conferences and talks between the two had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

grown more and more frequent. Javas smiled inwardly at the realization that his father had come to know him better in these last weeks, while still separated by millions of kilometers, than in years of living together on Corinth.

It suddenly occurred to him what it was: trust. The single suggestion of pushing up the landing by an hour, mentioned in just the right way, told his father *I am in charge here*. It was all that was necessary for the Emperor to immediately give Fain the order for the schedule alteration.

A chime from the room system interrupted his thoughts momentarily. "Incoming message, sire. Port Authority reports that the Emperor will arrive in five minutes."

"Thank you." Javas removed his jacket from the back of the chair and slipped it on, deftly fastening the gold buttons as he approached a grouping of several plush chairs facing the opposite wall. "System," he commanded, sitting in the leftmost chair.

"Sire?"

"Open my receiving room, please. I wish to view the landing. Interior lights off for the duration."

The room dimmed and a glow formed several centimeters over the entire surface of the wall as the air shield came on. A thin shaft of light beamed into the room in a straight line along the edge where wall met ceiling, then widened as the entire wall slid noiselessly into the floor, exposing the huge landing bay.

Leaning forward, Javas looked directly below his chamber at the private viewing section reserved for members of the court and invited guests. Nearly all the seats were filled. All, that is, except one row near the front of the section that had been reserved for Bomeer and his associates from the Academy of Science. He chuckled to himself, pleased that the academician had been so easily sidestepped. His eyes swept further down to the floor of the chamber, fully a hundred meters below his position, where hundreds of technicians scurried about, attending to God-only-knew what important duties essential to the safe landing of the ship.

Prince Javas shook his head in slow awe at the tremendous sight, and allowed the corners of his mouth to turn up in a boyish grin.

"I never get tired of this," he whispered to himself, settling back in the comfort of the chair. Then, aloud, "System, please place an audio-only call to Commander Fain aboard the incoming shuttle, and inform me when through."

The public access conduit was crowded. Hundreds of people hurried down the wide, curving hallway surrounding the landing bay. Many paused to sneak a glance at the seating passes in their hands while looking for the large, painted numbers identifying each side passage in an attempt to find the spectator gallery to which they'd been assigned for the landing ceremonies.

Two men stood near a side passage identified as "Gallery 29." The smaller of the two looked nervously around, lowering his voice whenever he thought someone might pass within earshot.

"But there are so many in each section," he was saying. He wrung his hands as he spoke and shifted his weight

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

first to one foot, then the other. "How will I know if I'm in the right one?"

"Don't worry," replied his companion. "We've checked her seating assignment. She'll be in the front row of the gallery. When the ceremonies have concluded, just wait in your seat for her to exit then give her the letter." He seemed much calmer than the other; at ease, in fact. His exact expression, however, was hidden behind a thick beard.

"I'm not certain about this. What if—"

"Listen!" snapped the bearded man. His powerful voice cut instantly through the small man's agitation and forced him to gaze up into the bearded man's wolflike eyes, forcing him—almost against his will—to give his full attention. "Our cause is right. We must do whatever it takes to make it succeed. Here . . ." He reached into a pocket of his leather jacket and retrieved a gold bracelet. "Wear this, and show it to her when you identify yourself."

He obediently slipped the bracelet over his wrist, examining the engraved picture on its surface as he did. "A phoenix?"

"A trinket; it means nothing. It serves only to identify you." The bearded man took a few steps into the stream of pedestrian traffic and checked the time on an infoscreen he'd remembered seeing mounted a few meters down the far wall. "They'll be sealing the galleries in a few minutes. Better get in."

The man nodded, absently fingering the bracelet on his wrist, and headed down the passageway.

The bearded man stood unobtrusively in front of the passageway, pretending to be waiting for someone, until he heard a large doorway close. A quick look toward the gallery confirmed that it had been sealed; an armed guard stood before it.

Satisfied that no one would be leaving the gallery until after the ceremonies, he casually strolled away from gallery 29, careful not to attract attention.

"Imperial shuttle *Bright Cay* in approach position at five kilometers, awaiting final clearance."

"You are in pattern, *Bright Cay*, and we have you in approach lock-in. You may proceed at your convenience."

"Roger lock-in. Stand by, please." The pilot turned in her chair to face the uniformed man seated in the log officer's station behind him.

Commander Fain stirred uneasily in the chair, feeling useless and unnecessary on the deceptively small control bridge of the shuttle. Indeed, the bridge was so cramped that the log officer had been reassigned to an auxiliary position on the bridge afterdeck just to make room for Fain behind the pilot.

Protocol.

There was no need for him to be here. He knew the five-person crew could handle this or any other landing in their sleep—Fain had, in fact, personally selected the crew from among his own officers on the flagship now orbiting the Moon—but protocol demanded his presence.

"Commander?" The pilot was still looking at him expectantly. The co-pilot had also turned to face him, and Fain wondered how long he'd hesitated.

"Proceed with final approach," he

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

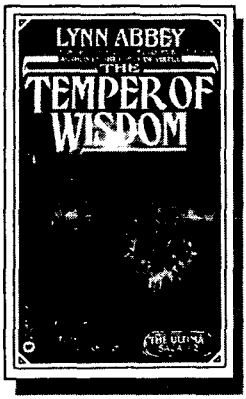
N E W S F R O M

Questar
SCIENCE FICTION FANTASY

BACK TO BRITANNIA!

Lynn Abbey, co-creator of *Thieves' World*,™ continues her saga—begun in *The Forge of Virtue*—and set in the wondrous realm of the popular Ultima role-playing computer games.

Britannia is the far-off land created by Lord British, where magic would be science and evil would fade from memory. But then Lord British vanishes, and Britannia becomes tainted with malevolent forces. It is up to Jordan Hawson and his companions, returning to Britannia from the wicked northern forests, to summon the will and courage to find the missing nobleman, and free Britannia from the malignant sorcery that grips it...before the powers of the dark Inquisitor engulf them all!



"Lynn Abbey is one of the most creative and inventive writers of fantasy today." —C.J. Cherryh

0-446-36226-3/$4.99
(In Canada: $5.99)

Also read:

The Forge of Virtue
0-445-21065-6/$4.50
(In Canada: $5.95)

A WORD FROM BRIAN THOMSEN

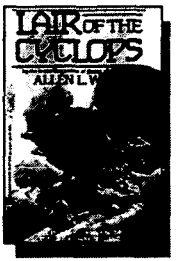
For some reason an integral part of the human psyche is curiosity—we just can't wait to see what might be lurking around the next corner.

Adventures are probably at their safest when they exist on the printed page. The saga of an interplanetary treasure hunter like Rikard Braeth or the quest of a group of young adventurers like in THE TEMPER OF WISDOM feeds our curiosity with new corners to peek around in every chapter...and when the new adventure is over I always find myself craving more.

When you see me around ask me about sleeping (after all, February '92 is going to be dream month at Questar).

ALSO THIS MONTH:

LAIR OF THE CYCLOPS



From the bestselling author of *Crown of the Serpent*—and in the tradition of Steve Perry's *Matadora* series—here is the third book to star Rikard Braeth, interplanetary adventurer extraordinaire!

Rikard Braeth is on a quest to uncover the 2,000,000-year-old mystery of a great cyclopean race that once changed the galaxy, only to die without a trace. Who were the cyclops? And what hellish power annihilated them? Braeth must confront civil war, academic cyberspace, savage worlds of psychic menace, and a murderous grave-robber to *uncover the truth...*

Cover art by Richard Hescox
0-446-36247-6/$4.50
(In Canada: $5.99)

Also read:
Crown of the Serpent
0-445-20624-1/$3.95
(In Canada: $4.95)

Questar ® is a registered trademark of Warner Books, Inc. © 1991 Warner Books, Inc. Printed in U.S.A.

AVAILABLE AT BOOKSTORES EVERYWHERE

WARNER BOOKS

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

said firmly, and straightened in his chair to see over the pilot's shoulder, watching as the landscape below began to slide past the shuttle once more. The port authority would assume full control of the landing once she brought the ship in closer, but the final hand-off was yet to come.

Watching the young pilot deftly handle the shuttle, Fain felt a twinge of envy. How long had it been since he'd actually piloted a ship like this—with his own hands? Fain sighed and leaned back in the chair; as they neared the dome and the vertical angle increased, there was not much to be seen through the front viewport anyway.

"Commander Fain?" said the communications officer to his left. "I'm receiving an automated ground-based message for you."

Now? "Put it through, then."

"It's coded private, sir; audio-only."

Fain exhaled heavily and thumbed a switch on the armrest of his chair, putting his headset into private mode. "This is Fain," he said, then waited for confirmation that his voice-print ID had been verified.

"Stand by for a transmission from Prince Javas," said a synthesized voice. Fain's brow knitted in concern: the call was being automated through the Prince's personal system. "Ready to receive?"

"Yes." There was a one-second delay before the transmission started, but it seemed much longer.

"Commander, I hope you are in good health?"

"I am, sire. But I must admit to being somewhat puzzled by your call."

The Prince's chuckle buzzed in the headset. "I'm sorry if I alarmed you. You'll be landing in a few moments and I'll see you personally then on the receiving platform, but there's something I wanted to say to you now.

"When you bring the ship down, you'll also bring to an end the long and hard transfer of the Imperial Court to Earth. I'm sure I don't need to remind you of the scope of this undertaking, nor of its ultimate importance to my father's project. But—" He paused, and for a moment Fain thought the young man might be at a loss for words, perhaps for the first time since he'd known him.

"I've relied on you these last dozen years more than you know," he continued. "My father's health is not good, you know that. But you may not realize just how close you are to my father's favor."

"Sire, I—"

"Let me finish, Commander. You've served my father well, as both commander of the Imperial fleet . . . and as a friend. He's depended on you for personal advice as much as for professional competence, and I'm convinced he would not have survived the trip without you. Thank you, Fain."

Fain sat, stunned, and could think of no response. His jaw moved soundlessly, but the prince, apparently aware of his discomfort, spared him further embarrassment by quickly adding in an upbeat voice, "I'll see you soon, Commander." There was an almost imperceptible click in the headset, indicating that the signal had disconnected.

"We're at 500 meters, Commander, and holding," the pilot said over her shoulder. Fain quickly recovered and thumbed the headset off private.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Give me an underside view, please." The log officer's viewscreen switched immediately to show the landing dome below them. Concentric targeting rings glowed brightly around the perimeter of the dome in a bull's-eye pattern. A dark circular portion in the center of the rings, the massive landing bay doors, was easily discernible even in the tiny screen.

"I have the port authority now, sir; would you care to give the hand-off?"

Fain looked at her, caught her slight smile before she turned back to the panel. "Thank you." He thumbed the armrest. "Port Director, what is your status?"

"We have you in full lock-in, and are ready for pad down."

"The *Bright Cay* is ready. Bring us in."

"Yes, sir." He disconnected immediately. A brief shudder coursed through the ship, signaling that the gravity harness had engaged. The sensation ended almost at once, and the ship glided smoothly toward the dome, completely under ground control now.

The landing bay of the Imperial dome was the largest single enclosed space Adela de Montgarde had ever seen. The port facilities on her home world of Gris were tiny by comparison. Even the starport on the Imperial planet, certainly the largest on the Hundred Worlds, had nothing like this.

She sat in the fifth row of a special section reserved for those personally invited by the Imperial Court, accompanied on either side by members of her scientific staff. She quickly surveyed the section and noted that, with the exception of the row directly in front of hers, nearly every seat was filled. Adela wondered inwardly, looking along the empty row, why that obnoxious Bomeer and his group of sycophants had not yet arrived. Surely he'd been informed of the change in arrival time. *Probably wants to make an entrance*, she thought.

Her eyes scanned the vast chamber, trying to take it all in. The ceiling was fully 400 meters above her, and it was necessary to look closely to make out the separation lines between the movable doors at the top of the dome and the gently curving walls that rose to meet them. There were several catwalks regularly spaced on the walls and the lighted windows of numerous work stations, viewing rooms, and technical facilities glowed brightly on each level.

Below the lowest of the catwalks were the spectator galleries. Like the dome itself, the galleries—constructed especially for this momentous occasion—nearly sparkled in their newness. Arranged irregularly around the perimeter of the landing bay, they gave the bay the appearance of a sports arena, although the odd layout of sections throughout the dome reminded Adela of no athletic event she could imagine.

The gallery level was separated from the upper, technical area of the dome, and each section was widely spaced from the next. Adela noted the hundreds of lightly armed security personnel, each in formal dress uniform, who strolled the lower catwalks as well as the wide areas between the sections themselves. Each section was packed, with few empty seats visible.

The entire area was dominated—perhaps dwarfed was more accurate—by

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the enormous landing platform below, crisscrossed with a glowing grid pattern. It was the grid markings themselves that gave Adela a clue to the true size of the place: she knew the grid lines were spaced twenty meters apart, but from this distance they looked as close together as lines on graph paper.

A heightened buzz swept through the crowd and she turned in her seat to see the source of the excitement. Immediately above them a viewing room had opened, and the Prince himself sat ready to witness his father's arrival. He stood, raising a hand in salute to the crowd, and the room swelled with the mingled sounds of cheering, applause, whistles, and shouts.

The Prince scanned the Imperial section, picking her out. When their gaze met, a smile came to his face and he nodded in greeting. His eyes lingered a few moments longer before sweeping out across the crowded chamber. He waved again to the crowd and took his seat.

A faint humming sound, more felt than heard, and a sudden brightness in the air took her by surprise. She looked up just as an air shield snapped into place over her entire section. Throughout the massive landing bay shielding was coming on section by section, and the surprised gasps of scattered spectators not familiar with the security precaution reached her ears. Gasps invariably gave way to nervous laughter, however, when those more used to the technology explained to their neighbors what was happening.

The air filled with three sharp blasts of a warning horn, immediately silencing the crowd. Dozens of rotating lights ringing the topmost catwalk drew all eyes upward as another shield appeared at the top of the dome. It brightened as it formed, gradually expanding until the entrance doors in the ceiling were completely covered. A soft hissing sound filled the chamber when the air was evacuated from the space between the shield and the doors themselves.

The hissing faded away, punctuated by a single, steady blast of the horn, and the doors parted in the center with a rumbling that sent vibrations through the entire dome. Although the landing bay was brightly illuminated, even Adela was not prepared for the brilliance of the shaft of light that burst through the opening. Many in the crowd looked quickly away, eyes stinging from the sudden brightness. They watched the path of light as it rapidly widened on the landing platform below until they grew accustomed to the intensity and returned their gaze to the opening above just in time to see the doors *clank* into place at their widest point.

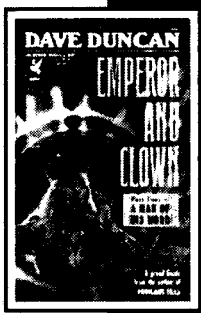
Nothing more happened for several moments, then a sudden chattering and a collective gasp spread through the crowd. It started at the lowest rows, where spectators nearer the center saw it first, then spread quickly up through the galleries.

My God, it's huge, Adela thought as the landing gear and the underside of the shuttle appeared over the opening. The sunlight reflecting off the spacecraft's gleaming, white surface brought tears to her eyes and she squinted, rubbing them occasionally on the backs of her knuckles. Above the air shield dust and smoke swirled violently in incongruous silence in the narrow space just

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

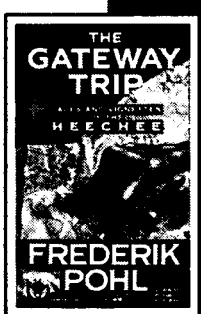
JANUARY

Rap, the stableboy-turned-sorcerer, returns to rescue her Royal Highness Queen Inos in the grand finale to this fabulous fantasy series by an award-winning author! "DAVE DUNCAN WRITES ROLLICKING ADVENTURE NOVELS... ONE EXCELLENT BOOK AFTER ANOTHER."
—*Locus*



The dazzling new sf talent behind *A Landscape of Darkness* spotlights an alien plot to plunge Earth into a second Ice Age, in his second sensational novel!

A stunning, all-new short-story collection starring everyone's favorite alien race—by one of sf's best-loved Hugo, Nebula, and John W. Campbell Award winners! "POHL'S WORK OFFERS GOOD SCIENCE FICTION AT ITS BEST ...A MIND EXPANDING EXPERIENCE."
—*The Washington Post*



HEROISM, HOLOCAUST AND THE HEECHEE—

FROM THE FIRST NAME IN IMAGINATION...

DEL REY

#1 in Science Fiction and Fantasy
Published by Ballantine Books

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

inside the doors, but the swirling abated once the standby thrusters shut down. The landing bay's gravity harness had the ship firmly in its grasp, and smoothly and steadily lowered it through the opening.

The landing feet touched the shield first, causing the air to sparkle around the gear as the craft lowered through the shield, sending glowing ripples across the width of it as on the surface of a pond. As the shuttle came through the shield, Adela became aware of the increasing sound level. Mechanical hums and the descending whine of the thrusters as they continued through their shutdown cycle came from within the craft itself, while sections of the gleaming metal skin popped and creaked as it gradually equalized to the temperature inside the landing bay.

The shuttle had barely cleared the shield when the doors starting slowly closing again. As it happened, the doors *thunked* shut at nearly the exact instant the enormous spherical ship came to rest on the landing grid. The full weight of the craft settled suddenly on its gear a few moments later when the gravity harness was released.

She'd never seen anything like it, and neither had the thousands of people who had turned out for the event. A mighty roar went up from the galleries, virtually drowning out the sound of the bay's recirculating fans as they eliminated the last of the thruster exhaust from the chamber.

Adela turned once more to the Prince's viewing room behind their section. He was nodding, the relief evident on his features even at this distance. After a moment, he stood and joined in the general applause.

She looked back to the ship and, unable to contain herself, rose with the crowd and began to clap her hands.

Only minutes earlier, aboard the *Bright Cay*, the Emperor of the Hundred Worlds sat comfortably in his powerchair, despite the stiffly formal uniform he wore, and enjoyed the natural pull of the world below him, the first natural gravity he'd felt in years. The closest of his physicians back on Corinth used to chide him about being able to tell the difference between the artificial light gravity they'd prescribed for his personal quarters there and natural gravity. But, like the bio-implants he'd more than grown accustomed to, he knew, *sensed* somehow the subtle differences that lesser men missed.

"How long till we land?" he asked Brendan, the full-time aide assigned to him for the duration of the long voyage. He refused to think of Brendan as anything but an aide, although common sense and practicality constantly reminded him that he was, in reality, a twenty-four-hour nurse. His lips drew together in a tight line of disgust every time the word "nurse" flashed in his mind, but despite himself the Emperor liked the man.

It was a sign of either good training or insight that Brendan refrained from jumping to the Emperor's side at the question in an overbearing attempt to reassure him of the safe progress of the vessel—certainly, the Emperor had had enough of *those* kinds of aides—and he appreciated, not for the first time, Brendan's candor and approach to his position. As it was, the younger man turned

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

slightly in his seat and, glancing at his wrist, replied simply, "About five minutes, sire." He was watching the progress of the landing on the large viewscreen set into the opposite wall.

As if an afterthought had occurred to him, he added casually, "There's still time to ride out the landing in your stateroom, sire, should you prefer."

The Emperor studied the young man. Even though his medical condition was constantly being relayed to the Imperial computer and then to the medical staff, his aide had his own implants and constantly monitored his medical readouts. Even now, he knew, Brendan was comparing respiration, heart rate, blood pressure and other biolevels with those found to be acceptable for the Emperor in a variety of conditions. *My pulse must be up slightly*, thought the Emperor, *or he would not have suggested a move designed to get me back into bed.* He made a conscious effort to relax, breathing slowly and easily to calm his excitement at the imminent conclusion of the lengthy trip.

Brendan turned to him once more, right eyebrow arched slightly at an angle nearly matching the half-smile appearing on his face. "I guess not, then."

The Emperor knew his efforts at subterfuge had been read and interpreted correctly, and returned a knowing smile. *I can't keep much from you, can I?* he added silently.

The landing itself proceeded more rapidly and smoothly than he might have expected, and it seemed as if only moments had passed when the contact warning horn sounded softly over the room system. There was a slight jar as the landing gear touched the pad, then another as the gravity harness released. The Emperor accessed the integrator linking his mind directly to the shuttle computer and quickly verified that the landing had been perfect in every way, although he expected no less from Fain's hand-picked crew. He issued a silent command through the integrator, giving commendations to each crew member.

Brendan stood solemnly, a rare look of seriousness on his face. "Sire, I . . . I'd like to request permission to remain aboard until after you've been transported to the Imperial residence."

"Oh?" The Emperor scrutinized the young man's features, looking for some clue to his discomfort. "Why is that?" The aide tensed under his gaze. Accessing the integrator once more, he observed that Brendan's pulse and respiration were both elevated. *We are linked inextricably*, he mused. *Patient and caretaker, linked more closely than Siamese twins.* He softened his tone. "Brendan, if we cannot speak freely to each other after these many years, then I know you less than I had believed. Please, do you have a concern of which I should be made aware?"

The change in the Emperor's voice seemed to relax the man, and he continued, more sure of himself this time. "Sire, as we speak your medical readouts are being transferred from the ship to the Imperial computers here; plus I'll continue to monitor you personally, of course. But when you leave the ship in a few minutes, it'll mark the first time you've been seen publicly in many years. I understand the ceremonies are being carried on all the Sol system and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Imperial nets, not to mention that thousands have traveled here for the honor of being on hand for this historic moment. . . ." He stopped, took a deep breath. "Do you really want to be seen with your . . . nurse standing by your side?"

The words now in the open, Brendan exhaled heavily and gazed steadily into the Emperor's face. The Emperor absently rubbed his white-bearded chin with thin, frail fingers and nodded silently. The thought had simply not occurred to him. *I must truly be getting old, to overlook such an obvious point*, he admitted inwardly. He looked at the young man, and extended a bony hand.

"You're right, Brendan," he said, feeling the strength in the other's grasp. "Thank you for pointing it out." Disengaging the powerchair from the magnetic landing restraints, he glided quietly to the viewscreen. "Inform Commander Fain that I am ready to leave, at his soonest convenience."

"Yes, sire," He bowed slightly and turned immediately for the door.

It took nearly fifteen minutes before the room system informed him that Commander Fain was on his way, and another ten before they arrived at the shuttle's elevator. Most of the accompanying members of the Imperial court were already waiting in formation outside the ship and the two men, alone on the lift, rode in near silence until the elevator came to rest on the platform of the landing bay itself. The emperor cocked his head to one side, listening intently to a steady vibration that seeped through the walls of the cubicle. Fain caught the motion and offered, "It's the crowd, Sire."

"Well, then," he replied. "We had best not keep them waiting any longer." He nodded once, and Fain tapped at a small keypad next to the lift door.

The door slid aside instantly, and both men were hit by what seemed like a solid wall of sound. The Emperor of the Hundred Worlds smoothly powered the chair forward onto the crowded platform, Commander Fain walking steadily at his right. Imperial officers, flagship crew and shuttle crew members, support personnel, and numerous other dignitaries parted as he came forward, then fell into position behind him. Fain escorted the emperor to a large circular receiving area that had obviously been set up for the reception, then took two steps back as the Emperor himself glided into its center.

The chamber dimmed, a spotlight illuminating the circle. He raised a hand in greeting, and the crowd exploded into tumultuous applause that continued for several long minutes. He raised both hands now in an effort to quiet them, and waited patiently for the noise to die slowly away. He glanced to Fain, who touched his earpiece once and nodded, indicating that the audio pickups in the landing bay were operative and ready, then turned to face the crowd.

"I thank you deeply for your warm welcome," he said simply, his soft voice reverberating from the curved walls of the immense room. "It is good to be home."

The crowd burst into approving applause, and the Emperor thought better of attempting an address at this time. Instead, he extended a hand to a point just above the nearest gallery, the one reserved for Imperial guests, and mo-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Get ready for a whirlwind gallop along paths found only by enchantment's glow

HORSE FANTASTIC

Edited by
MARTIN H. GREENBERG and
ROSALIND M. GREENBERG

From the tale of a thoroughbred even death couldn't keep from running one last race to a trusty steed who bore its young owner on a wild night ride with the Hunter of Souls— here is a stable full of magical tales certain to appeal to anyone ever bespelled by fantasy at its finest, or classic tales of equestrian adventure. Among the authors who have crafted original stories for this volume are such greats as Jennifer Roberson, Mercedes Lackey, Mickey Zucker Reichert, Judith Tarr, Mike Resnick and Nancy Springer.

$4.50 DAW FANTASY
Distributed by Penguin USA

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tioned directly at the Prince's viewing room. A second spotlight arced across the room, catching the prince in its center, and all eyes turned to face Javas as he rose, bowed briefly, then turned swiftly and disappeared from view. He appeared seconds later at a door at the top of the gallery flanked by two color guards and, with a single wave to the crowd, started down steps at the side of the private section. He walked slowly, purposefully, down the narrow aisle until reaching the fifth row, then stopped and held out a hand to a formally dressed woman sitting a few seats down the row. She hesitated, but at the insistent urging of those around her she rose and edged carefully down the row to stand nervously at the Prince's side.

He extended his arm and escorted her to the bottom of the gallery. The prince's color guard separated, quickly taking position on each side of a short set of steps leading to the landing grid itself. A section of the air shield at the top of the steps quivered and changed color momentarily, allowing Javas and Adela to pass through, then solidified once they approached the reviewing area where the Emperor now waited.

They were nearly on the platform itself before the Emperor recognized the woman being escorted by his son as the tiny girl who, what seemed a thousand years ago, convinced him of her plan to save Earth's Sun. *The years have aged her*, he thought as she curtsied formally before him. He studied her face, and realized that behind her eyes was a subtle look of surprised shock, a look that reflected her own concern at how much *he* had deteriorated.

Prince Javas bowed deeply, then moved to the front of the receiving circle where he looked out over the crowd and raised an arm to silence them. When he was satisfied that the noise level had subsided to his liking, he carefully removed the Imperial sash and held it above him in both hands, turning slowly so as many people as possible could see what he was about to do. Crossing ceremoniously to his father's powerchair he placed the sash over the Emperor's head, smoothing the glistening, satiny material across his shoulder as he leaned close and whispered in his father's ear, "Things are going well." Javas nodded to the empty row in the reserved gallery, and enjoyed the look of understanding in the old man's eyes as he realized that Bomeer had been sidestepped. He stood upright again and faced the crowd.

"Ladies and gentlemen," the Prince said forcefully, proudly, in a voice stronger than the Emperor had remembered. "I give you the Emperor of the Hundred Worlds!"

There was no restraining the people now as they erupted into shouts of approval that seemed to shake the very walls. Javas stepped briskly to a smiling Commander Fain, offering a hand that the other grasped and shook vigorously. As the Prince turned formally and stood on his father's right, Fain immediately crossed behind the Emperor and took position on his left, completing the ceremonial transfer of power. As the threesome remained in formation for the audience review, the Emperor noticed that Adela, unfamiliar with Imperial protocol, stood awkwardly at the edge of the receiving circle. He looked up and caught his son's eye, nodding in her

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

direction. Javas raised an eyebrow in silent request and, when the Emperor nodded approval, slowly extended his arm, indicating that she should join him at his side.

The noise was so loud that it took several moments before anyone noticed the commotion off to the right side of the reviewing platform. Dozens of security personnel had surrounded one of the public galleries, and the people in the gallery itself seemed to be scrambling in an effort to escape.

There was a sudden flash in one of the backmost rows of the gallery and the entire wedge-shaped area suddenly turned crimson as the explosion was contained by the shielding. The flash subsided immediately, leaving only a square, smoke-filled cube behind.

A sudden crackling filled the air as the shield surrounding the landing area—until now at normal setting—snapped instantly to maximum, adding a translucent haze around the perimeter of the platform that made it difficult to observe what was happening in the gallery. Javas lunged for his father's powerchair in an instinctive attempt to cover the Emperor with his own body, but a dozen members of the Imperial security staff immediately surrounded him, separating him from the Emperor for safety's sake, just as Fain and Adela were being hustled under equally heavy guard to different secure areas. The Emperor tried desperately to make out what was happening in the landing chamber, but he was already being placed into the protective custody of the shuttle crew.

If what he suspected was true, the entire gallery—effectively contained by the air shield—had been turned into an oven, guaranteeing the death of everyone in the section. The Emperor shook his head, realizing that his greatest fear had come true.

So, he thought. *It begins.*

2: Reunion

"Dead. All dead."

The Emperor of the Hundred Worlds hadn't realized he'd spoken the words aloud, although softly, and was startled momentarily by the confused beeping of the info system built into the walls of his study. The system had mistaken the words as an incomplete command.

"Cancel—" he started to say, then thought better of it. He hesitated, knowing how great the pain would be if he acted on the sudden thought. He sighed heavily, feeling the tiredness of the last twenty-four hours wash over him, and glided the powerchair to a position facing the center of the large viewscreen on the far wall of his study.

"Interior lights off." The room's artificial lighting dimmed immediately, but the screen cast a soft, comfortable glow over the room. "Give me a single-screen biographical file on each of the victims of yesterday's explosion in gallery 29, alphabetically."

"Manual or continuous rotation?"

"Manual." The Emperor's reply was a whisper. Although easily picked up by the system, another person in the room would have heard only the slightest mumbling. *The mutterings of an aging man*, he thought bitterly.

"The specified files will require some time to cycle manually, sire. Would you prefer an integrator download?"

The Emperor didn't answer, and instead stared intently at the screen. The

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

first bio was already displayed, and showed a young man with sandy hair and a beaming smile. *James Altann*, read the file. *Age: 32. Home: Alphonsus, Luna. Occupation: Cargo Driver, exterior. Marital status: Married, one child.*

"Would you prefer an integrator download?" the room system repeated.

"No, audio-visual only. Next file." The screen display changed instantly, showing a freckle-faced woman with long blonde hair and sparkling blue eyes. *Miriam Altann. Age: 31. Home: Alphonsus, Luna . . .*

As useful as the integrator was, the Emperor had come to loathe it and used it only when necessary; when alone, he nearly always shunned it. The information his personal link with the Imperial computer provided was extremely valuable—and frequently indispensable—but it made things too unfeeling, too "clean." The integrator could have provided all the files in a matter of seconds but the Emperor wanted to observe them with his own senses, individually, one at a time.

"Sire," the system intoned, accompanied by an insistent chiming. "I have an incoming communication, coded as important."

"Store all messages for later retrieval. Next." The Emperor moved the powerchair closer, and felt a sudden chill wash over him as he scanned the file. "Five years old," he whispered.

There was a single beep from the system, indicating confusion once more at what it interpreted as another incomplete command. The Emperor of the Hundred Worlds ignored it and concentrated instead on the bio file of little Tracy Altann, noting how the child's freckles matched her mother's.

"Next file." The Emperor went through the files, slowly, one after another. There were numerous single entries, with no apparent connection to those who had died in the seats next to them. Some were Armelin City employees, some were tourists. There were members of the Imperial research staff and local shopkeepers. There were other whole families, too, who had traveled for the rare privilege of witnessing the Emperor's arrival.

All dead.

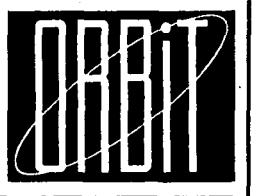
He started cycling through the files again. "This is a code one override." The room system's persistent tone broke the Emperor of the Hundred Worlds from his unpleasant task and he turned sharply away from the viewscreen. "This is a code one override," it repeated. He had no way of knowing how many times the system had paged him since he'd disabled it several minutes earlier, but he did know that the override page would repeat until it was acknowledged—his physicians, rightly concerned for the aging leader's continually deteriorating health, had ordered the override code installed in his personal page program. The Emperor also knew if he ignored the code one page *too* long, that Brendan and the medical staff, escorted by a full security team, would cut through the door with torches if necessary to determine why he had not responded. He reluctantly issued a mental command to reopen the communications program in the room.

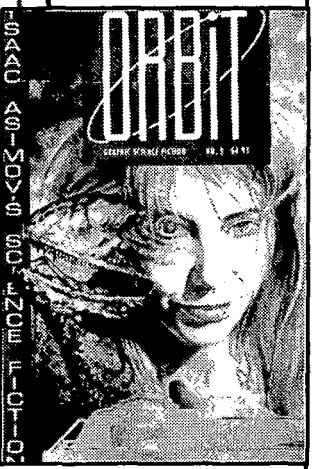
"I do not wish to be disturbed!"

"Father, are you all right?" It was Javas. "I've been trying to reach you

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A Special Offer For *Analog's* Readers





Orbit

Volumes 1 through 3, $4.95 each.

Or Order the Complete, Three Volume Set for Only $9.95 (A 33% Discount!)

Find the Best Graphic Science Fiction in ***Orbit***, the Graphic Anthology ***L.A. Reader*** Called "...The Best—If Not the Only—Way to Visualize [Science Fiction]." Top Authors Featured Include Isaac Asimov, Ben Bova, Frederik Pohl, Lucius Shepard, Lawrence Watt-Evans, and Others... and the Artists Include Award-Winners Such as John Bolton, Dave Stevens, John Pound, and Tom Yeates. Get Into ***Orbit*** Today!

Name _____

Address _____

City _____ State _____ Zip _____

Orbit #1 ❑ $4.95 ***Orbit*** #2 ❑ $4.95 ***Orbit*** #3 ❑ $4.95 All Three ❑ $9.95

Add $1.00 Postage per Order. Send Coupon and Check or Money Order in U.S. Funds to **Dept. AN 111, Asimov/Orbit, 380 Lexington Ave., New York, NY, 10168-0035.**

NY Residents Add 8.25% Sales Tax.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for some time and grew concerned. May I come in?" The Emperor did not answer immediately, and Javas's tone grew more insistent. "Father, I must speak with you about the accident in the landing bay."

The Emperor sighed, resigning himself to the fact that he had postponed this meeting long enough. Through the integrator, he ordered the system to abandon voice mode and return the room lighting to normal levels before admitting the Prince. "I'm sorry, Javas," he said as his son entered, "but I was reading the files of those killed in the blast and, well, I'm afraid I got a bit more involved than I had intended." He studied the Prince for a moment and, knowing that the young man would someday perform similar tasks, smiled briefly before adding, "It never gets any easier."

Javas nodded politely, staring over his father's shoulder.

Display off, he commanded silently, but realized Javas must surely have seen Tracy Altann's file on the screen. Javas quickly returned his attention to him as the display winked out and was replaced with an external view of the lunar surface surrounding Armelin City, simply nodding at his father's remark rather than pointing out the obvious. *Thank you, son, for allowing me a moment of private pain*, he thought.

"Please, be seated."

The two men regarded each other silently for several moments, each feeling the awkwardness of this first face-to-face meeting alone in so many years. The Emperor noted that Javas's manner had changed significantly since entering his study. The anger and frustration of dealing with the tragedy had shown plainly on his face when he'd first arrived, but now he seemed more nervous than the awkwardness of the situation warranted. The young man sat stiffly upright in the chair, not touching the backrest, and fidgeted uneasily. The Prince seemed to have difficulty keeping eye contact with him, but those moments when their eyes did meet, the Emperor saw a glint of something—a mixture of pain and regret?—in his son's face. He called up a diagnostic readout on the Prince's personal biomonitors. The information came to him quickly and confirmed what he'd suspected: his son's heart rate, respiration, and brain activity were all at high readings, despite the Prince's best efforts to hide his discomfort.

Their eyes met briefly, and the Emperor knew that Javas had guessed what he was doing. *My turn to save you a bit of embarrassment*, he thought.

"You are shocked at my appearance," he said simply, bluntly. "But what did you expect? I was an old man before we embarked on this grand adventure more than twenty years ago. I age. The Emperor always ages."

He leveled his gaze at Javas and looked deep into his son's eyes, then added, "As will you, when you become Emperor and are forced to stop rejuvenation."

"Father, I—"

"No, Javas. It's all right." His words carried a tone of understanding as he spoke. All trappings of Emperor and Prince abandoned for the moment, he spoke instead as father to son. "I do not need the integrator to tell me what you're thinking. The many holoconfer-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ences we've held in recent months are one thing, but seeing me alone now, here in this room, you've been forced to come to terms with your own future. A future that, I fear, may be coming to pass sooner than you'd like."

Javas nodded silently, then looked deep into his father's eyes.

"The time here has been difficult," he began. "When I first set about my task of relocating the Imperial throne here, I had many questions about the wisdom of this undertaking. In the last year I'm afraid I asked too many of those questions of Bomeer, and listened too closely and too often to his answers. But for every reason he expressed that this was but a . . ." the Prince paused, regarded his father a moment before going on, ". . . a fool's mission. . . ."

The Emperor gave an amused snort. "Well, there is at least one thing, then, that the years cannot change."

"Each time he attempted to win me to his side on a particular issue or procedure surrounding our purpose here, Adela—Dr. Montgarde—convinced me of each issue's validity."

The Emperor raised an eyebrow. "I see."

"Academician Bomeer has done his best at every turn to convince others of his side of the argument, as well, even as he follows your orders—"

"Son," the Emperor interrupted, feeling his demeanor change. Where before he had been disturbed, even shaken, by the tragedy of the day before, he now summoned up his inner strength and once more spoke as Emperor. "I have seen the reports; both those that you have been so thoughtful as to provide, as well as my own private intelligence. I am aware of the problems you've faced here, and of your many successes. I am quite familiar with the situation, as it stands now." He glided the powerchair to its work station behind the desk, a silent order opening a cabinet set into the wall behind him as he pivoted around and took a bottle and two glasses from the well-stocked shelves inside. He smiled to himself as he turned back to the desk, amused at what his physicians would think if they knew of this secret cache, installed at Javas's order to match the one in his study on Corinth. He gave another silent order, this time to suppress those particular biomonitors that would relay certain information—information concerning his intake of alcohol—to Brendan, who was certainly monitoring his readouts around the clock.

"In fact," he went on, pouring two drinks, "even though I've been in-system but a few days, I'm sure I can provide you with more useful information than you might imagine." He handed one of the drinks to the Prince, then held his own up in a brief salute before taking a long sip of the liquor. "Are you aware, for example, that there is to be an assassination attempt next week at the Hundred Worlds Planetary council?"

Javas stared at his father, the glass frozen mere centimeters from his lips.

"Lost your taste for drink, son?" The Emperor sipped at his glass, set it down near the terminal screen built into the desk top.

"Father! You can't be serious." Javas downed his own glass in a single bolt.

The Emperor shook his head. "Fine

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

liquor should be savored, not gulped. Yes, I'm quite serious. As we address the collected representatives of the Hundred Worlds, there will be another attempt on our lives; yours, and mine. And probably Dr. Montgarde's as well."

Javas, quickly regaining his composure, set the empty glass slowly on the desk in front of him. The Emperor studied his son carefully, and raised a pleased eyebrow when he noted that the momentary blip in the young man's bioreadout had returned quickly to normal.

"I can understand why you have become a target, father," he said bluntly, "and, to a lesser extent, myself. If I've learned anything over the last decade here, it's that your project has not been well-received by all. There would be many who would like to see the plan defeated with the end of your reign. But why should Dr. Montgarde's life be in danger? Surely any opposition would realize that without the full power and support of the Emperor to back her work, that the plan would end here and now."

"Would it, then?" He looked steadily at his son, allowing the meaning of his words to sink in. "If I were dead, you would immediately assume the throne. And, whether you realize it or not, it is already widely known through many of the Hundred Worlds that you would continue the work where I left off." He reached once more for the bottle, and refilled each glass. He sipped once of the dark brown liquor before continuing. "And son, unless I'm misinterpreting both my information and my own senses, it is also obvious to many that you will certainly be working much more closely with Dr. Montgarde than I ever would have."

The Prince sat quietly, then rose and approached the viewscreen. Staring at the sparkling lunar landscape, he sipped at his drink. "I've been a fool," he said quietly, turning back to face the imposing figure seated behind the huge desk. "I've been entirely too open about my feelings for this project." He paused, then, "And, yes, I have grown close to Adela de Montgarde."

The Emperor waved a hand to dismiss the small confession, and indicated the chair before the desk, waiting until the Prince sat before going on. "You've not been a fool. In fact, your unbridled enthusiasm for the doctor's theories will probably, in the long run, work to your advantage. Consider this: Many think my backing of this plan to be merely the dream of a weak old man, clinging to the last strings of power before the inevitable occurs." The Emperor paused, allowing a tiny smile to spread across his lips as he absently studied the empty glass in his wrinkled hand.

"Well, perhaps there is some truth in that—in any event, you are well-liked and respected. Your work here has impressed many of the representatives of the Hundred Worlds. For them to see your conviction and enthusiasm has, no doubt, won many more followers than Bomeer's frenzied rantings."

While Javas considered what he'd just said, the Emperor issued another silent command, then leaned wearily back into the comfort of the powerchair. A green light flashed several times on the right armrest of the chair. The Emperor pressed the light briefly, extinguishing it, then said aloud, "Enter."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Prince Javas turned his head toward the opposite side of the study and stood as a door, previously invisible in the intricate woodworking of the cabin's far wall, slid noiselessly into the matching paneling surrounding it.

The newcomer was of medium height and build, quite unimposing really, and wore—not a fleet uniform or an Imperial jacket, as might be expected of someone entering the Emperor's private study in so sure a manner—but plain, civilian clothing in a style currently popular in the larger, more cosmopolitan lunar cities. A closer examination of his clothing, however, showed that his outfit was not as inexpensively tailored as a casual glance would lead one to believe; that they had, in fact, been purposely designed to look quite ordinary, as though the wearer wished to be able to blend into a crowd without calling attention to himself. The door closed behind him and the newcomer suddenly adopted a much more formal attitude as he approached the massive desk, stopping barely a meter away. There was no mistaking that when he stood, he stood at attention.

"No, you have not been foolish to show your excitement," the old man went on, returning his attention to the prince. "However, you have been careless. Oh, please meet Marcus Glenney." Again, the Emperor leaned back, watching the reaction on his son's face. *So, the old man can still surprise, eh?*

Javas extended a hand in cordial greeting, but he tilted his head to one side, narrowing his eyes as a look of haven't-I-seen-you-somewhere-before spread openly across his features. "Do I know you?"

Glenney took his hand with a strong, firm grasp. "No, not officially. But it is good to finally meet you, young prince."

"We've met . . . unofficially then?"

The Emperor chuckled softly, enjoying the small joke, and indicated that both men be seated. He fetched a glass and poured a drink for the newcomer, who thanked him but nonetheless set the glass down without drinking.

"Marc has been with you for nearly, what, thirty years now, subjective time?" Glenney nodded. "And with my arrival becomes head of Imperial security here on Luna. He has been your constant companion—without your knowledge, I'm afraid—since your wedding day. I assigned him as your personal protector the same day . . ." he paused, the sound of contempt plain in his voice even to him, ". . . that *she* entered our House."

"So, it seems I have a guardian angel," Javas replied, ignoring his father's aside at his former wife. An amused smile appeared momentarily on his lips before his voice lowered, assuming a no-nonsense tone. As he spoke, Glenney sat a bit more upright in his chair. "My father would not be revealing your identity, indeed, your very existence to me, if there were not a point to all of this. What have you to report?"

The Emperor watched and listened closely to his son, pleased at how quickly he had adjusted to this new situation, how readily he had taken charge. *You have matured greatly*, he thought. *I should have set you to an important task much sooner.*

"Young Prince, I regret that there have been no fewer than three assassina-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

HBS

MEDICAL COMPOSITE CARD

RxWatch

GUARANTEED LOWEST PRICES ON PRESCRIPTION DRUGS!

SAVE THOUSANDS OF DOLLARS ON MEDICAL SUPPLIES AND HOME HEALTH CARE PRODUCTS!

SAVE UP TO 60% ON HEARING AID SERVICES AND SUPPLIES

*Rx *Watch* is a registered trademark of Hook-SuperX, Inc.

ACUTE PRESCRIPTION DRUGS may be purchased at over 26,000 independent pharmacies nation-wide, including major chain stores (**eg; Hook-SuperX, Brooks, Sav-On; Thrifty, Peoples, Medicine Shoppe**, etc.).

*Brand name and generic drugs are priced at wholesale prices plus state Medicaid dispensing fee.

MAINTENANCE PRESCRIPTION DRUGS are provided by Hook-SuperX, a nationally known mail order provider.

*Brand name and generic drugs are priced substantially below retail—guaranteed lowest prices;

*Home delivery;

*Prescriptions are checked by a minimum of two pharmacists under the RX Watch Program that is designed to control accuracy and dangerous drug interaction.

As a member you can purchase **OVER 400,000 HOME MEDICAL SUPPLIES**, equipment, non-prescription medicines, and rentals representing over 700 manufacturers.

*Ambulatory Aids, Arthritic and Self-Help, Back and Cervical Aids, Bath and Toilet Aids, Bedroom and Bed Equipment, Health and Beauty Aids, Orthopedic and Sports Medicine, Ostomy Management, Respiratory, Urological, Wheelchairs, thousands more items;

*Savings of 20-50% below retail;

*Home delivery (5-6 days);

***FREE** catalog;

***FREE** Medicaid/Medicare consulting services.

As a member you can also purchase **HEARING AIDS**, hearing aid batteries, and hearing aid repairs at substantially discounted prices.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Access to 26,000 drug stores nationwide!
NO claim forms!
NO deductibles!
NO limits on usage!
NO pre-existing conditions excluded!

Our Guarantee

If you find a pharmacy that has a lower price for your maintenance drugs (90 day supply) call us. We'll verify that pharmacy's price and charge you that lower price.

Enroll Today!

To get your HBS Medical Composite Card, complete and mail this enrollment form to:
HBS, 2101 South Hamilton Road, Columbus, Ohio 43232
Your card and all membership information should arrive within 2 weeks.
Or call toll-free 1-800-745-8683 to place a credit card order.
Upon enrollment, HBS will notify each national supplier of your purchase eligibility. When you're ready to purchase or use any service, use the 800 number listed on the back of your membership card.

ONLY **$29.95** PER YEAR FOR YOU AND YOUR FAMILY

DP-2
AN-012

YES! I would like to enroll in the HBS Medical Composite Card Program. I am enclosing $29.95 for the first year's enrollment. I understand that this card covers me, my spouse and children.

Your last name	Your first name	Middle init.	Date of Birth
Address			Social Security #
City	State	Zip	Phone
Spouse's last name	Spouse's first name	Middle init.	Date of Birth

DEPENDENT FAMILY MEMBERS TO BE COVERED

Last name	First Name	Middle init.	Date of Birth
Last name	First Name	Middle init.	Date of Birth
Last name	First Name	Middle init.	Date of Birth

☐ Check enclosed (Please make your check payable to HBS.)

☐ Visa ☐ MasterCard Card #_____ Exp._____

Complete and mail with payment to: HBS, 2101 South Hamilton Rd., Columbus, OH 43232

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tion attempts since your arrival here on the Moon."

"Three!" A look of surprised shock. "I know of one, eleven months ago. My own security team," Javas shot a quick look at his father, "informed me of their suspicions long before the threat was realized. Those involved were apprehended and dealt with."

Glenney looked steadily at Javas and said, not a hint of apology in his delivery, "I know. Your security team was given a great deal of help. By me. The information was channeled secretly, of course. They had no way of knowing that they'd not defused the situation as a result of their own efforts."

Glenney glanced to the Emperor, who nodded curtly, then continued. "The second was taken care of without the knowledge of your personal security. In this case, however, those responsible were rounded up early on at Landsdowne, on the far side, with the threat never even making it to Armelin City."

"I see." Javas sat, unmoving, and stared intently at the security man. "And the third?"

For the first time, Glenney squirmed uneasily in his chair. He turned to the Emperor, awaiting a sign to continue, when Javas pounded a fist on the table.

"*Don't* look to my father for permission to speak! I asked you a question!" Glenney sat bolt upright, as if snapped to attention on a parade ground, but before he could answer the Emperor held up a withered hand.

He looked to Javas, feeling a mixture of pride at the sudden strength exhibited by his son and regret at having kept secret what he was about to say.

"The explosion yesterday was not an accident." He waited a moment for the words to sink in, and watched as a look of realization crossed the Prince's features. The Emperor had ordered that the tragedy be explained as accidental, that the rupturing of a compressor line below the galleries had caused a flash fire responsible for the deaths of nearly 160 people.

"Not an accident?" The anger drained from Javas's face and he eased back into the swivel chair. "But any attempt on your life from the galleries would have been contained by the shielding. Any assailant would realize that. I'm not sure I understand."

Glenney reached into his jacket, extracting a thin sheet of stiff paper, and handed it to the Prince. "Do you know what this is?" he asked.

Javas examined it, read the markings: Gallery 29, Row 1, seat 11. It was dated for the previous day. "Obviously, it's a seating pass for the landing ceremony. Did you recover this from one of the victims?" He looked first at Glenney, then, when the security man remained mute, to his father.

"No," he answered for Glenney. "There was not much to be recovered. This was Dr. Montgarde's pass. She had originally been assigned to gallery 29." He observed Javas carefully, noting how his brow furrowed in pained concern, his lips drew into a tight line. "Without knowing it, you saved her life, as well as the lives of several members of her research team."

"When you invited her to sit in the Imperial gallery," Glenney added, "we no longer felt the need to concentrate our efforts in 29. Fortunately, no other

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

members of the Imperial staff or the doctor's team were seated there."

Javas's mouth opened in obvious disbelief at the callous statement, and he was immediately on his feet. For a moment, the Emperor thought the Prince might strike the man but he watched as his son turned suddenly, disgustedly away and crossed to the other side of the study.

"A hundred and sixty people," he said softly. The Prince sighed and shook his head reverently, but the inner reflection lasted only a few seconds before a look of fiery determination glowed in his eyes and he turned his full attention to the security man. "I want those responsible, Glenney, do you understand?" The Emperor started to speak, but Javas cut him off before he could say anything. "No! Father, this is mine."

Glenney cleared his throat. "I'm afraid that won't be possible, sire. The cause of the explosion was chemical in nature, and those responsible died along with the others. Which is partially the reason, incidentally, for our not being able to detect this attempt in advance."

"Oh? And why is that, *security* agent?" Javas made no attempt to hide his sarcasm and stared at him, unblinking, until he continued.

"From spectrographic analysis of what little we've been able to recover, it seems this was an individual attempt on Dr. Montgarde's life. One person, certainly no more than two, apparently brought volatile chemicals into the gallery; most likely by saturating articles of clothing. Alone, the chemicals were harmless, but combining them—perhaps with an effort as simple as crossing his arms so the sleeves made contact with one another—created a nearly instantaneous reaction. With the shielding in place, the assailant knew he didn't even have to sit near his target. The explosion, in fact, originated in the last row. Ironically, from that location the assailant probably wasn't even aware that the doctor wasn't in the gallery."

Javas crossed the room and sat down. He rubbed his eyes wearily with the backs of his hands and the Emperor noticed for the first time how tired his son appeared. He had not been the only one, he realized, who had slept very little the night before.

The Prince leaned an elbow on the armrest of the chair and stroked his chin absently for several moments before swiveling the chair to address Glenney.

"You've missed something," he said. His words came slowly, evenly, and he waited until he had the other's full attention.

Glenney sat straighter, cocking his head slightly in puzzlement and curiosity at what the Prince might be suggesting, but remained silent.

"The explosion occurred," he went on, "several minutes after Dr. Montgarde was in plain sight on the landing platform. Tell me, security agent: Why would an assailant, acting alone and in control of his own actions, attempt to kill a target that was plainly no longer available?"

3: Alliances

"I don't like this," said the gray-haired man. "I don't like any of it. At all." He leaned back, sinking deeply into the comfort of the thickly-padded sofa, but despite his efforts looked posi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tively anything but comfortable.

"You think I do?" Bomeer shot back. He paced briskly before the enormous window, nervously looking from time to time at the box resting on the low table between the sofa and the two matching chairs that faced it. Seeing that the top surface of the small cube glowed green, and satisfied that the audio blocker was functioning properly, he continued. "I don't like the native Earthers any more than I trust them, but face facts: now that Javas fully intends to support the old man's fool project—and carry it on when he himself becomes Emperor—we can't afford to be too particular about whose help we accept." He paced steadily, glancing occasionally at the comm terminal to check the time.

"Academician! Would you kindly sit down?"

Bomeer halted in mid-stride and regarded his companion. With a bemused snort, he crossed to one of the chairs opposite the sofa and fell heavily into it.

"You're right, Wynne," he said, checking the time yet again. "My apologies." Bomeer reached for a glass on the same serving tray where he'd placed the blocker, but a soft chiming from the door stopped him. He spoke tersely at the comm. "Identify." The screen glowed immediately, an external camera showing a tall, slim man standing outside the suite.

"Is that him?" Wynne asked, leaning forward to study the screen more closely.

"Yes." Both men rose, and Bomeer crossed quickly to the entranceway. "I'll say this for Earthers: they're punctual," he said to the academician under his breath, then, louder: "Admit."

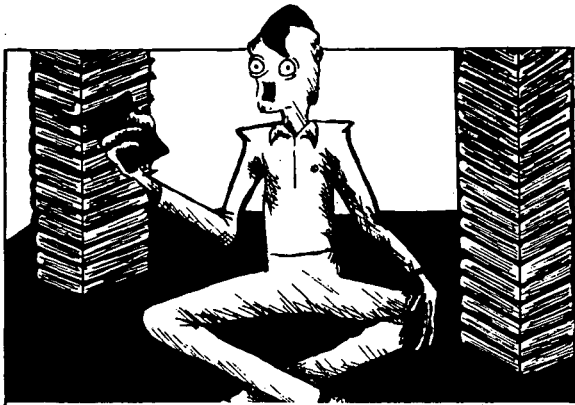
The Earthman was tall, Bomeer realized as soon as the door slid aside; surprisingly so. The external security camera had not given a true feeling for the man's sheer size any more than it had given a clear look at the intricacies of his facial features. Although hidden by a thick beard, the features appeared mostly North American or European; but Bomeer could detect a hint of Asian stock somewhere in the man's background. He wore a neat but casual outfit dominated by shades of browns that closely matched the color of his hair and beard. His jacket, Bomeer noted, was a finely brushed leather. Not waiting to be invited in, he strode purposefully into the room as soon as the door had completely cleared the frame.

"On behalf of my fellow Academician," Bomeer said to the man's back, "I'm honored you have agreed to—"

The man spun about, the angry glare of his dark eyes immediately silencing the academician. He just as abruptly turned away again and walked to the seating area in the center of the room. Ignoring Wynne completely, he hurriedly scanned his surroundings and reached into the pocket of his jacket, producing a thin cylinder—it looked to Bomeer like a pen or stylus—and twisted the top once, clockwise, and clipped it to the jacket's narrow lapel. The tip of the object blinked softly, steadily. He turned to face Bomeer, the leather of his jacket creaking subtly as he clasped his hands casually behind him, and allowed a polite smile.

"All right, then. You were saying?" His deeply resonant voice was decep-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



OVER 50% OFF DURING OUR FIRST ANTHOLOGY WAREHOUSE SALE!

Our warehouse is full -- full of classic science fiction anthologies from **Analog Science Fiction & Fact and Isaac Asimov's Science Fiction Magazines** We need to make room for new books -- that's why we're having our first anthology warehouse sale. For only $17.95 plus postage and handling, we will send you an assortment of 9 classic science fiction anthologies. That's less than $2.00 a book and less than half the original price.

Please send your check or money order (no COD's please) to:

Anthology Warehouse Sale
Davis Publications, Inc.
P.O. Box 40
Vernon, NJ 07462

Please send me

___ An assortment of 9 classic science fiction anthologies ($17.95 plus $3.00 postage and handling)

Please send to:

Name_____

Address_____

City_____ST_____Zip_____

While we cannot accommodate requests for specific anthologies, we guarantee that you will be delighted with your surprise assortment. Also, at this great price, these anthologies will make wonderful gifts for your science-fiction-loving friends.

Allow 6-8 weeks for delivery. Available only in U.S. M9GG-5

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tively calm, out of place with the rugged image he presented.

Bomeer pursed his lips a moment and forced down the annoyance he felt at his visitor—dismissing his manners as peculiar, but normal perhaps, to Earthers. Clasping his own hands behind his back, Bomeer stepped down to the seating area and stood facing the newcomer. The two men stared at each other for several seconds, neither making an effort to extend a hand in greeting to the other. Bomeer's neck began to stiffen as he stared up at the giant of a man; and he immediately regretted trying to imitate his actions.

"Your blocker was not necessary," Bomeer said finally, indicating the blinking object clipped to the Earther's jacket. "We've already seen fit to take all practical caution."

"Is that so?" The man's hand flashed into his coat and, before the two academicians realized what was happening, held a pin laser leveled at Bomeer's face. "It wouldn't be easy to kill you with this, Mr. Bomeer, but I could blind you in two seconds." He punctuated his remark by flicking the weapon back and forth several times mere centimeters from Bomeer's eyes. An unpleasant smile crept across his features as he added, "Of course, with my foot planted firmly on your chest and fifteen or twenty seconds to work, I *could* slice open your throat." He lowered his hand and waved it at Bomeer's neck, whispering softly on each pass, "Zip. Zip. Zip."

Bomeer stood frozen and felt sweat trickle down his neck, back; his armpits burned, and at the same time an incongruous wave of cold swept over him. He moved his lips several times to speak, but no sound came out. His eyes glanced pleadingly to Wynne, still standing at the sofa, but realized that the older academician was even more terrified by what was happening than he was. The standoff continued a few agonizing moments longer before the bearded man laughed aloud and turned away, swiftly replacing the laser into his coat, and sat nonchalantly in one of the chairs opposite the sofa.

"Perhaps a review of what you feel to be 'practical caution' is in order, Mr. Bomeer?"

Bomeer tugged at his tunic, nervously trying to regain his composure, and sat on one side of the sofa. He regarded Wynne, still standing speechless, and managed to relieve his own anxiety somewhat by concentrating on just how much more afraid Wynne was than he. He cleared his throat once, then again.

"Wynne, please be seated," he said, using every bit of will he possessed to make each word sound calm, steady. He watched the visitor carefully as Wynne sat, trying to take the measure of this stranger from Earth, and at the same time trying to utilize every additional second of silence to further calm himself.

"As I started to say," he went on, feeling more of his confidence returning, "I'm pleased that you've asked to meet with us this afternoon. This is Plantir Wynne, co-director of the Imperial Academy of Science." He nodded at Wynne, who sat looking even less comfortable than he had before the Earther had arrived. Wynne extended a quivering hand.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The bearded man regarded Wynne with disdain, and even Bomeer had to admit, if only to himself, just how pitiful the man appeared. "Please refer to me as 'Johnson' in this and any other transactions we may have," he said, reaching to shake hands finally.

"I must be frank," Bomeer went on, anxious to get this meeting started—and ended—as soon as possible, "I was a bit surprised to receive your message. I'm not sure exactly what it is we have to discuss."

"Johnson" stared at him, half smiling through his beard. "It's very simple. You wish to stop this plan to save the Sun. The entire 'Academy of Science,' as you call it, has been on record as opposing the project from the beginning, but the two of you have been the most vocal in your disagreement, am I correct?"

And just how much else do you know? Bomeer wondered to himself. "I have been loyal to the Emperor all my life," he said, "but I've not kept secret my feelings that this project will severely undermine the Empire, potentially bankrupting it. I have gained few friends among the Imperial court for my beliefs, but to keep silent about my feelings would be a disservice."

"I see." Johnson nodded thoughtfully, then turned sharply to Wynne. "And you? Do you mimic every thought of your colleague, or do you actually have a voice of your own?"

Wynne seemed to have regained some of his composure, and raised an eyebrow to the Earth man. "The Emperor has been a good leader for many years," he said without hesitation, surprising Bomeer with the unexpected confidence in his voice. "But this plan will destroy the very fabric of the Empire."

"I see," Johnson repeated. Rising from his chair, he approached the window and stared solemnly out over the lunar landscape for a moment before turning to face the two once more. "I, and those I represent, could not possibly care less about the so-called 'fabric of the Empire.' " For the first time since entering the suite, the Earth man allowed genuine emotion to show in his voice—whether intentionally or not, Bomeer couldn't tell.

"We do not care for *your* Empire," he went on, the disgust plain in his voice. "Your goals are not ours. Your values, your government, your very way of life is abhorrent to those of us here who strive to cleanse ourselves of your influence."

"You've damn well accepted the benefits of membership in the Hundred Worlds, though, haven't you?" Bomeer countered, feeling his own anger beginning to rise. "Somewhat hypocritical of you pure, clean Earthers, eh?"

"It was a compromise that benefited us, yes!" Johnson hesitated as he returned to his chair where he sat and crossed his legs, resuming the nonchalant manner he'd exhibited earlier. When he spoke again, all traces of emotion had disappeared from his voice. "We're not stupid backwater natives, as is so popularly believed among the Worlds. We like our life the way it is, and accept those benefits from the Empire that we see fit to accept. Our dealings with the Empire these many centuries have been regarded as a necessary evil to maintain our lifestyle.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Sol system is a harmonious system. Those Earthers not wishing to be a part of the lifestyle on the Home World are free to settle elsewhere, and many relocate here on the Moon, or in the Orbitals. Some have joined the project to reclaim Venus or have settled on the moons of the gas giants; still others accept the Imperial way of life, or elect the harsh life on one of the Frontier Worlds. They do so with our blessings, leaving our values, and theirs, intact. Is that so difficult for you to understand?"

Bomeer looked once at Wynne, then regarded Johnson steadily. "What I seem to understand," he said, rising from his spot on the sofa, "is that there is apparently little purpose to our continuing this discussion." He reached for the blocker on the tray, but Johnson's hand on his wrist stopped him. The man's grip was incredibly strong. Bomeer stared at the Earther's hand, envious of the strength hidden in those deceptively delicate-looking fingers, and noticed a gold bracelet encircling his wrist. But for an etching of a flame-shrouded bird on the metal's flat, gleaming surface, the bracelet was plain and otherwise unadorned.

Bomeer looked up and found himself gazing squarely into Johnson's face. This close to the man, he noticed a musky scent about him that mingled pleasantly with the smell of his leather jacket. Further, there was something about the look in Johnson's eyes as he leaned close that made Bomeer want to listen, something that made him want to trust the man.

"Let us understand this, then: We are a different people, you and I, and have differences in philosophy." He released Bomeer's arm and, sitting upright once more, addressed both academicians. "But in this instance we share the same goal. You wish this project stopped. So do we. Only our motives differ."

Bomeer idly rubbed his wrist. *And just what are your motives?* he wondered.

Rihana sat before the dressing table in her private chamber, studying her reflection in the mirror as she slowly brushed her long coppery hair. She was not displeased with what she saw. Before leaving Corinth, she had accepted the fact that she would most likely need a rejuvenation upon arriving at Sol system, but a smile came to her lips as she observed just how little the long trip had affected her.

There was a soft, polite tapping at the door. "Mistress Valtane?"

She paused, mid-stroke, at the interruption but finished with the brush and set it on the table before responding.

"Yes, what is it Linn?" She made no effort to turn to face her attendant when she entered, and instead concentrated on her own image in the mirror as she considered which jeweled comb would best accentuate the outfit she'd selected for this meeting.

"The ambassador's liaison is here, mistress. He is waiting in the receiving room."

On that, Rihana did turn. "His liaison? Not the ambassador himself?" Since it was the ambassador who had requested this meeting, she was surprised at the news. "Very well," she said, "I'll be there directly."

The attendant nodded, and quickly left the chamber. Rihana went to a full-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Your Window to the Future

Apply for the new Far Travelers MasterCard!

"Every time you use The Far Travelers Card, a percentage of the amount charged goes to support the activities of the National Space Society at no extra cost to you."
Joel Davis — President, *Isaac Asimov's Science Fiction® Magazine.*

Encourage humanity's commitment to the exploration of space.

Use *the* MasterCard for Science Fiction Readers.

No annual fee*

*(for the first year, and later depending upon usage.)

Annual Percentage Rate for Purchases	Variable Rate Information	Grace Period for Repayment of the Balance for Purchases
Variable Rate 16.4%	Your Annual Percentage rate may vary. The Rate is determined by adding 7.9% to the New York Prime Rate as published in the *Wall Street Journal* on the first Friday of the preceding month.	Not less than 25 days
Method of Computing the Balance for Purchases	**Annual Fee**	**Minimum Finance Charge**
Two-cycle Average Daily Balance Excluding New Purchases	$20.00*	50¢ If it would otherwise be greater than zero and less than 50¢

Other Charges

Over-the-Credit-Limit Fee: $15
Cash Advances: 2% (minimum $2, maximum $10)
Return Check Fee: $15
Late Payment Fee: 5% of each payment due or $5, whichever is lower

***There is no Annual Fee for the first year.**

The $20 Annual Fee will be waived in subsequent years for card accounts with total annual purchases in the previous year of at least $6,500.

The information about the costs of the cards described in this application is accurate as of June 1991.
This information may change after that date.
To find out what may have changed, call us at (406) 761-8922 or 1-800-735-5536,
or write to BanCard Corporation of Montana, P.O. Box 5023, Great Falls, Montana 59403-5023.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Far Travelers™ Card

MasterCard®

APPLICANT INFORMATION **001-004-00002**

FIRST NAME | INITIAL | LAST NAME

DATE OF BIRTH / / | SOCIAL SECURITY NUMBER — — | HOME PHONE ( ) -

ADDRESS | CITY | STATE | ZIP CODE | YEARS THERE

PREVIOUS ADDRESS | CITY | STATE | ZIP CODE | YEARS THERE

PRESENT EMPLOYER | WORK PHONE ( ) - | YEARS THERE

PREVIOUS EMPLOYER (if with present employer less than one year) | WORK PHONE ( ) - | YEARS THERE

GROSS ANNUAL INCOME* $ | TOTAL MONTHLY PAYMENTS (INCLUDE HOME, CAR, PERSONAL, CREDIT CARD LOANS, ETC.) $ | PREFERRED CREDIT LIMIT $

NEAREST RELATIVE NOT LIVING WITH ME | RELATIONSHIP | TELEPHONE ( ) -

CO–APPLICANT INFORMATION

FIRST NAME | INITIAL | LAST NAME

DATE OF BIRTH / / | SOCIAL SECURITY NUMBER — — | HOME PHONE ( ) -

ADDRESS | CITY | STATE | ZIP CODE | YEARS THERE

PREVIOUS ADDRESS | CITY | STATE | ZIP CODE | YEARS THERE

PRESENT EMPLOYER | WORK PHONE ( ) - | YEARS THERE

PREVIOUS EMPLOYER (if with present employer less than one year) | WORK PHONE ( ) - | YEARS THERE

GROSS ANNUAL INCOME* $ | TOTAL MONTHLY PAYMENTS (INCLUDE HOME, CAR, PERSONAL, CREDIT CARD LOANS, ETC.) $

*Your alimony, child support and separate income need not be disclosed if you do not wish to have it considered as a basis for repaying this obligation.
*Required minimum combined annual income is $12,000.

I authorize BanCard Corporation of Montana to check my credit and employment. I agree that I will be subject to the terms and conditions of the Cardholder Agreement sent with the card.

X _____ Applicant's Signature Date

X _____ Co–Applicant's Signature Date

Please mail this application or a photocopy to:

BanCard Corporation, P.O. Box 5023, Great Falls, Montana 59403–5023.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

length mirror near one of the room's several closets and examined herself. She'd selected her outfit specifically with the ambassador in mind, being careful to choose a color pattern visible to the alien. She quickly undressed, tossing the expensive gown casually across a chair, and selected a two-piece pantsuit of shiny satin. Only slightly less expensive than the outfit now lying in a heap on the chair, it was considerably more comfortable.

He was already standing when she entered, idly watching the comings and goings in the small landing facility adjacent to the receiving room. Over his shoulder she could see the Sarpan shuttle parked and being tended to by members of her staff. He wore a loose, open-collar white shirt, short-sleeved, with pants of a matching light material and looked more like a man on holiday than an official emissary for an alien race. Rihana recognized him as the same man who had contacted her to arrange the meeting the day before.

"Mistress Valtane," he said with a polite nod that was also, but not quite, a formal bow. "On behalf of Ambassador Press, thank you for receiving me."

"Please, be comfortable." She led him to a circular seating group at one side of the room and waited till he sat, balancing a thin briefcase on his lap before continuing. "I must admit Mr. —Carrigan, is it?—that I'm a bit surprised. When we spoke yesterday, I was of the impression that the ambassador himself wished to speak with me."

Carrigan cleared his throat, but if he was at all nervous or unsure of himself, he didn't show it. "I'm sorry for any misunderstanding, Mistress Valtane, but the ambassador never meets anyone in person, including members of his own race, during what they refer to as a 'first touching.' It is customary for important members of the Sarpan to meet first through an intermediary, even when all are present in the same room, and they have extended that custom to members of the Hundred Worlds as well. I apologize, but I'd assumed you knew."

"First touching," she replied, almost to herself, and extended a tentative hand. "Very well, then."

He took the offered hand. "Ambassador Press extends his greetings and good wishes to the House of Valtane."

She nodded agreement and Carrigan started to release her hand, but Rihana held it a bit longer, studying his reaction, before slowly letting go. Again, he seemed in complete control of his actions.

"Now," she asked, leaning back into the chair, "may I inquire as to the purpose of this meeting?"

"Since it is widely known that House Valtane is no longer linked with that of the Emperor, the ambassador is curious, Mistress Valtane, as to the reason for your presence here on Luna," he said without hesitation. "May he inquire as to your purpose?"

Rihana smiled inwardly. *You do get to the point, don't you?* she thought. *Why not?* "Yes. He may."

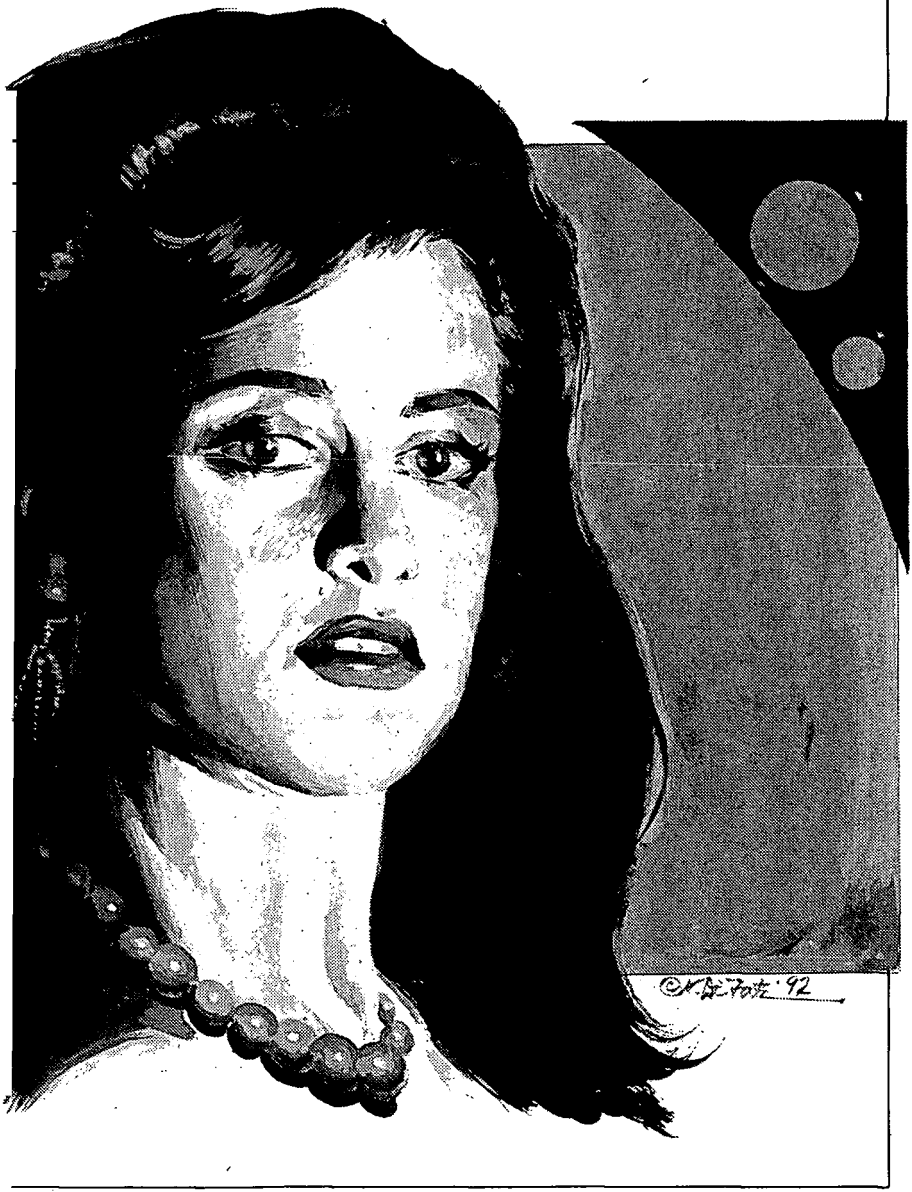
"Very good. Let me go over a few points of protocol before you meet him."

Rihana was taken aback. "He's here?"

"Yes; on the shuttle in which I arrived. I thought I made that clear."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

Rihana was grateful for the quick lesson in protocol that Carrigan had given her as she waited for the ambassador to enter his side of his shuttle's small receiving room. The chamber was divided by a large sheet of plastiglass, with each side of the room, as far as she could tell through the haziness of the Sarpan-normal atmosphere on the other side, mirroring the other: three chairs facing the window on either side. Closer scrutiny, however, showed several differences. While the chairs on the alien's side were of roughly the same size and design, they were padded with thick cushions of waterproof plastic while the chair in which she sat was fabric-covered. Moisture dripped freely down the walls on the other side, and the window fogged slightly from time to time. Heat radiated from the window's surface, and her side of the room was uncomfortably warm. The reasoning behind Carrigan's choice of clothing became suddenly clear.

"Ambassador Press," she said when he entered, remembering to look him directly in the face, "it is with great honor that I welcome you to my House." She swept an arm to indicate, not the shuttle itself, but rather the landing bay in which it was parked. Carrigan, seated next to her, nodded and she rose and approached the window, tentatively placing the palm of her hand flat on the sultry surface. The Sarpan was somewhat shorter than she, and needed to reach up to place a webbed, four-fingered hand opposite hers. He nodded several times, puffing gill slits at the sides of his neck with each movement. The "touching" completed, he reclined in the centermost chair.

The ambassador wore a short kilt of bright orange with a matching sash over one shoulder, soft-looking leather boots, and little else. The edges of his gill slits were pierced, Rihana noted, and sported several tiny silver bobs that glinted brightly against the gray-brown moistness of his skin when he spoke.

"Mistress Valtane," he said in a strangely melodious voice through the comm speaker. "It is my honor." He turned to his liaison. "Mr. Carrigan?"

"Ambassador, I have informed Mistress Valtane of your interest in her House, and she has agreed to discuss the situation frankly."

"Good." He returned his gaze to Rihana, blinking away excess moisture with transparent nictitating membranes. The drops rolling down his face gave the appearance that he was crying. "Why have you come to Sol system? We know that you are out of favor with the House of the Emperor of the Hundred Worlds. So. Why are you here?"

"Ambassador, my ouster from my husband's House was unprecedented. I have come to make claim on several rights due the wife of the Emperor's son."

"But you are no longer his wife. You no longer have claim."

Had she been speaking to another human, Rihana would have been outraged by such effrontery. She suppressed her feelings of anger and stared evenly at Press, rationalizing that he was speaking candidly. "You are correct in that I am no longer the Prince's wife, but that does not change the fact that I am the mother of his son."

Press blinked eye membranes and laced and unlaced his fingers several

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

times as he considered this surprising new bit of information. "So. I see. Another question, then: Is your . . ." Press hesitated, groping for the word she had used, ". . . 'ouster' from your husband's House related in any way to the endeavor to halt Sol star's rebirth?"

"Yes. I opposed his support of the emperor's project. But I am confused, Ambassador. My reason for being here has only to do with my rights, and nothing directly related to the project—"

"A moment, a moment," Press interjected, "a moment. Understand. I thought, perhaps because of your estranged relationship to the emperor's House, that you might be less reluctant to inform me of this project. So?"

"So" indeed. That's it, then, she thought, and waited for him to continue.

"Consider, please: We see a massive building of starships by your people. We see your Court moved farther from the Sarpan sphere of influence. We see a traveling of your people from all the Hundred Worlds to here. So. Consider: What are we to think?"

Rihana did consider. The Sarpan were, simply enough, nervous about the Empire's massive buildup of equipment and ships. And why not? The relationship between the Empire and the Sarpan had been tenuous at best, and deadly —on occasion—at worst. How were they to know that the Hundred Worlds hadn't decided it was time to change the relationship to their favor once and for all?

"To the best of my knowledge, Ambassador, the stated purposes of the Emperor are true and without darker motives."

"But, to stop a star's rebirthing! Surely this is folly?"

Rihana nodded in understanding. "I know," she admitted, "it does seem foolish, just as I told my former husband." A thought suddenly came to her. "Ambassador, despite the treatment of my House by my former husband, I am not without influence. It would be no difficult matter to confirm or deny the truth of this."

"So? And in return for this truth?"

He's sharp, Rihana thought, a smile spreading across her lips.

"Suppose," she began, "that House Valtane were able to confirm that the nature of the Emperor's endeavor is, indeed, scientific only—that this plan to 'stop the rebirthing,' as you describe it, is exactly that?"

A disturbingly human grin appeared on Amassador Press' face. "Mr. Carrigan, leave us." The ambassador's liaison stood, nodded politely to Rihana, and quickly exited the small chamber. "What we say now should be between us only. If House Valtane could confirm this, then this one of the Sarpan would be much in debt to House Valtane."

"Perhaps. But it need not be a one-time arrangement," she hinted. "Think of the future, Ambassador: Trade, information, materials; both my House and yours could profit greatly from such a cooperation."

Rihana paused as he blinked in consideration, then tilted her head and smiled wryly, adding, "Think, too, of a human Empire ruled by a son of my House."

4: Determination

I was wrong, the Emperor thought as he watched Adela de Montgarde ap-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

proach. *She hasn't aged; she's matured.* True, the corners of her eyes showed new lines that hadn't existed when she'd left Corinth for Earth's Moon. Her figure was fuller now as well, less boyish than he'd remembered. But if the tasks ahead of her on this difficult endeavor had aged her slightly, they had also invigorated her, filled her with a purpose that was easy to see after so long a separation. Still, despite her new-found maturity, he took comfort in the childlike way she delighted in each of the pleasures the royal family's private garden presented.

The scientist walked briskly toward him through the garden. Smaller than the common green area of the Imperial dome—which, in turn, was only slightly less magnificent than the main green of Armelin City itself—the garden was aglow in plants and flowers in hundreds of colors, from dozens of worlds.

There was a bounce to her step, he noticed, that the lunar-normal gravity could not quite account for. *She's anxious, excited,* he reasoned. *Do I have the right to make her dream more difficult?* She slowed her pace as she approached, but before she could formally greet him, he smiled and motioned her to come forward.

"There is no need for protocol here," he said, "nor time for the luxury. Please, walk with me." The Emperor smoothly rotated his powerchair, gliding it silently down one of the several flagstone paths crisscrossing the garden. As they walked, she discussed the project and the many successes she'd already had in her research. Only half-listening, the emperor studied her as they followed the path. Her bio-readouts were strong, he verified; no less so than her determination.

"I wanted to speak to you before tomorrow's Planetary Council," he said. "Much has occurred since my arrival, and there's been little time. Are you prepared for your presentation?"

She laughed softly. "Sire, I've been rehearsing this presentation, in one form or another, for years now. I've never been more ready for anything in my life."

"Yes, I suppose you have at that. Come; this way." The footpath widened, passing through a series of flower beds before ending in a circular clearing perhaps forty meters wide where several of the garden paths converged. Scattered throughout the area, surrounded by a ring of high shrubbery, were several stone benches. The Emperor directed the powerchair to the nearest of the benches and indicated that Adela be seated. He looked around him at the beauty of the garden and breathed deeply of the scented air. Adela sat straighter on the bench, and waited in silence for him to continue. She seemed to have sensed the change in his demeanor, and the Emperor realized he must have let his guard down momentarily. *It's getting harder to hide my feelings,* he thought bitterly. *It's getting harder to lie.*

"Adela, I need to speak to you of two very important matters."

"Sire?" Her tone was worried, nervous; her hands fidgeted in her lap. The Emperor did not need the integrator to tell him that her heart was racing.

She thinks I am taking the project from her! "First, understand that the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

project has my full support." She relaxed, but only slightly. "I know that the long years you have spent setting up the groundwork have been difficult. But remember that it is *only* a beginning."

Her smile now long vanished, she looked deeply into his face. "I know that," she said. There was something in her voice that took several moments for the Emperor to identify.

He regarded her differently, and went on. "I'm talking down to you, aren't I? Like an old man to a child."

Adela lowered her eyes, her silence confirming his question.

He chuckled in apology. "Forgive this old man, then, who seems to have developed an old man's habits." She looked back up at him, and he was relieved to see a sparkle return to her eyes.

"Let me speak bluntly, then, one adult to another: Adela, I am dying." She opened her mouth to protest, but he continued before she could speak. "At one point, I was doubtful that I would survive the journey here. I'm afraid that I even resorted to a few drastic measures to assure my healthy arrival on the Moon."

"Drastic measures? I'm not sure I—"

" 'Drastic' is a poor word choice; I should have said 'illegal.' On the voyage here, my medical staff saw that I was kept isolated for weeks at a time for various health reasons. Under my orders, they explained to the Imperial Court that I was 'being prepared,' medically speaking, for the transition from the open environmental and atmospheric conditions on Corinth to the closed lunar environment here." He swept a fragile hand to indicate the huge domework above their heads. "Only my personal medical aide and a handful of the Imperial staff know that I spent a cumulative total of four-and-a-half years in cryosleep." He waited a moment for the words to sink in. "Even Javas is unaware of this."

Adela rose wordlessly and walked a few meters to a blossom-laden bush. She absently plucked one of the fire-red blooms and turned back to the Emperor, her eyes avoiding his. "I hate the law," she said quietly. "It seems like such a useless superstition to forbid the emperor to use modern biomedical techniques."

"Does it?" he countered. "Think of the years of difficulty you faced getting the inflexible old men at the top of the scientific hierarchy to listen to your findings. Suppose you had an inflexible old man in the Emperor's throne? A man who would live not merely seven or eight score of years, but many centuries? No, it is a wise tradition, one I did not want to violate," he paused, sighing in resignation, "but it was a necessary evil."

Adela returned to her place on the stone bench. "Why are you telling me this?" she asked softly, setting the flower next to her on the bench.

He reached out, taking one of her hands in both of his. "I knew that I would not live to reach Sol system. I also knew that without my presence, Javas would have a much more difficult time in gaining initial acceptance for his support of the project, especially with the likes of Bomeer and his followers working at every opportunity to turn sentiment against it."

He sighed deeply and leaned wearily

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

back in the powerchair. "I tell you this now because I want you to realize something: I want you to know that I felt strongly enough about the purpose and validity of your dream that I was willing to do what was necessary to continue my part in it." He paused, then added, "Look at me." Adela lifted her face and regarded the Emperor once more.

"If your cause is right, then you do whatever is necessary to make it succeed. It is not always pleasant, for it often inflicts pain upon you, as well as upon those around you; but Adela, you must adopt this attitude for yourself—or you will fail."

"I know." Her voice was a whisper.

"Much will happen at the Planetary Council and in the days to follow. I will offer what help I can in the time left me, but understand this: Whatever happens, remain true to what you know is right."

The Emperor reached for the flower and brought it to his nose, inhaling deeply of the sweet fragrance.

"It's a firebush," she offered, "from my homeworld. They were lunar-adapted and planted at Prince Javas's request. He . . . knew how much I missed home."

You've captured him, haven't you? Much the way you captured me, he mused silently, and handed the bloom to her. She sniffed at it then gently stroked the fragile petals against the skin of her cheek.

"There . . . is another thing," he said, surprised at his hesitation.

"Yes?" There was a sober fear reflected in her eyes at what he might say next. She dropped her hands to her lap where nervous fingers twirled the stem of the flower first one way, then the other.

"The explosion in the landing bay was not an accident," he said abruptly, making no attempt to soften the words. "It was an assassination attempt—directed at you."

Her lips quivered, and a single tear rolled slowly down the same cheek that moments before had felt the caress of a flower, now lying forgotten on the ground at her feet.

"Somehow, deep inside . . . I think I already knew that." Her breath came suddenly in heavy sobs, and she lowered her face into her hands.

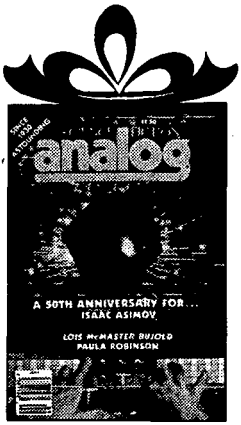
Dear God, Adela thought as she approached her office, *what now?* With barely two hours before the start of the Hundred Worlds Planetary Council, the last thing she needed was a visitor. He sat waiting in one of the chairs next to the reception desk and terminal station outside her office. Her secretary was on his feet as soon as he saw her approaching.

"I'm sorry, Doctor," he blurted, "but they insisted on waiting in—"

Adela cut him off with an understanding smile and a shake of her head. "It's all right, Stase," she said. "Why don't you take a break." He nodded eagerly, and wasted no time disappearing down the hall. Adela turned to the waiting visitor. "Yes? Can I help you?"

He rose from his chair, hands clasped casually in front of him. While smartly dressed in a modest business suit, something in his manner made it obvious that he was someone's servant. "My name is Poser, attendant to House Valtane. Mistress Rihana Valtane wishes to call on you."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



WRAP UP YOUR HOLIDAY GIFT GIVING

This holiday season give a subscription to **Analog Science Fiction & Fact Magazine.** It's the perfect gift and it will be appreciated through out the year.

Once-a-year holiday rates are now in effect. Your first gift subscription costs only $22.95 for 15 issues. Each additional gift subscription is even less--just $18.95 for 15 issues.

Isaac Asimov's Science Fiction Magazine is also available at these low holiday rates. The first subscription costs only $22.95 for 15 issues, each additional subscription costs only $18.95 for 15 issues.

Giving a gift subscription is easy. Just fill out the form below or *if you prefer, call* **TOLL FREE 1-800-333-4561.**

Mail To: Analog Science Fiction & Fact
P.O. Box 7061
Red Oak, IA 51591

- ❑ Payment enclosed.
- ❑ Bill me.
- ❑ Please, renew my own subscription.

Gift to:_____ Bill to:_____

_____ _____

_____ _____

❑ Analog ❑ Isaac Asimov

Gift recipients will begin their subscription in January, with the current issue.

We publish two double issues, in January and July.
Each double issue counts as two towards your subscription.
Foreign orders please add $6.00, (cash with order US funds). Y9SH-4

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I'm afraid now would not be a convenient—"

"She wishes to call on you alone," he continued as if she'd said nothing, flashing his best plastic smile. "I have taken the liberty of arranging an audience for you in your office."

"In my . . . I see." The man waited patiently, the smile not wavering. He seemed determined not to budge; then again, knowing Javas's former wife, he probably feared for his life if he did. "All right."

His smile widened, if that was possible, and he rapped sharply on the door. Another attendant opened it from inside. "Dr. Montgarde is here," he said once the door had slid completely aside.

He motioned for Adela to follow him and took position next to the open door, announcing her formally as she entered. "Dr. Adela de Montgarde—Mistress Rihana of House Valtane."

As angry as Adela was over her visitor's insistence that she stop what she was doing to grant her an "audience," she could not help but be awed by what she saw. Rihana was even more striking than Adela had remembered when she'd first met the woman at the emperor's table—and Prince Javas's side—on Corinth more than a decade earlier. She wore a clinging gown of cobalt blue that shimmered in the light with even the tiniest movement. A torque of sapphire around her throat, seemingly carved from a single gemstone, and the matching stones at her wrists and ears formed a perfect contrast to the copper hair that swept in a fiery mass across her shoulder.

Adela bowed, automatically respectful. "Princess Rihana—"

An icy stare cut Adela off before she could finish. "Dr. Montgarde, as I'm sure you are aware, the title of 'Princess' is no longer accurate. 'Mistress' will do fine."

Adela felt an angry heat rise within her, but forced it down and bowed her head slightly once more. "As you wish, Mistress. What can I—"

"Thank you Poser, Dennie," Rihana snapped, interrupting Adela again. "That will be all for now."

The two nodded curtly, then left, thumbing the door closed from outside. Adela heard a faint click and realized one of Rihana's attendants had taken the liberty of putting the door into private mode.

"What brings you here, Mistress?" Adela asked, keeping her voice as friendly as possible. "For that matter, I wasn't even aware that you were on the Moon."

Rihana looked thoughtful a moment, then said, "May I be seated?" She indicated a sofa at the far side of the room adjacent to Adela's desk and, not waiting for an answer, approached it.

Adela followed, inwardly impressed at how the woman's gown shimmered as she walked, and took a chair opposite her guest.

"As I asked before, what brings you here?"

Rihana picked up a small figurine from the desk, carved from a piece of Grisian rockwood, and examined it, turning it over in her delicate hands as she spoke. "I think we have something to offer one another," she began without preamble. "My House would be interested in offering—for a price, of course—assistance toward achieving

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

your, ah, goal." She raised a knowing eyebrow, and allowed the sound of a smile to lace her words. "House Valtane has considerable influence on a number of the frontier worlds; influence that may be needed to bring your project to fruition." She set the figurine on top of a stack of reports on the desk, and made no move to right it when it toppled over.

"And what of the frontier worlds?" Adela shot back, making no attempt now to hide the growing contempt she felt for her guest. "Do you see a problem there, *Mistress?*"

Rihana's eyes flashed, her composure slipping for a brief instant before she resumed. "Let's be honest with one another, shall we? Without the full support of every planet on the Hundred Worlds, you can't hope to achieve a successful end to this project."

"I see." Adela raised an eyebrow of her own. "You admit now that my ideas have merit?"

The erstwhile princess nodded almost imperceptibly in the realization that she was dealing with a strong adversary. "Let me say this: My people have researched your theories, and have found them to be valid. *Technically* valid, that is." She leaned back in the sofa and crossed long legs. Adela noted that the gown was slit up one side, and showed the woman's assets to good advantage. "Personally, however, I still feel the endeavor to be a foolish dream of a foolish man trying to make a last, memorable impression on his subjects. But, no matter; I see a great profit in this for my House. And what is so dreadfully wrong in that?"

And just what is it you really want, Adela wondered. *And what might your price be?* "Here is your answer, then: There is nothing wrong with that, Mistress. In fact, I'll need to use whatever aid I can get. The help of House Valtane would be most welcome."

Apparently satisfied that this meeting was ended, Rihana rose and crossed to the door.

"Thank you for your time, Doctor," she said, tossing a holocard on the service table. The flimsy card skittered frictionlessly across the surface of the table and slid to the floor. "You can reach me with this to set up any arrangements we deem mutually beneficial." She smiled politely and half-bowed, certainly more out of acknowledgment than respect, and knocked once at the closed door. One of her attendants on the other side opened it immediately.

Before exiting Rihana turned briefly, almost as an afterthought. "This project . . . it will take many generations, am I correct?"

"Yes, it will," she replied, rising. "I'll need years of cryosleep and rejuvenation to see it through."

Rihana nodded, a sadistic smile appearing on her lips. "Then you will lose him, you know. Just as I did." She turned abruptly and left without another word.

Adela knew it, of course, but had refused to allow herself to think about it: Once Javas was Emperor he would, by Imperial law, no longer be permitted rejuvenation. She would watch him grow old and die.

She thumbed the door closed and retrieved the holocard, noting that the copper-colored card was apparently blank, translucent. Holding it to the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

light at the right angle, however, the Valtane crest glowed a brilliant cobalt blue.

The Emperor blinked several times, trying to minimize the stress caused by the lengthy integrator download he'd just accepted. Accessing the Imperial computer was becoming more of a strain to him, and he reserved its use lately only for quick facts or files too long to be reported orally, like the one Glenney had just given him.

"They were all killed, then?" the Emperor asked at last.

Glenney lowered his eyes. "Unfortunately, yes. We don't have much to go on at this point; and we're getting precious little help from Earth authorities."

"You are certain their ties lead to the planet itself?"

"Yes, sire. Further, as I mentioned in my report, I believe this group may have been involved in the landing bay explosion." Glenney reached into his jacket and produced a gold bracelet, handing it to the Emperor. "Two of the dead men were wearing these."

The Emperor turned it over in his hands, examining the workmanship of the etching on its surface, and noticed how light it was. "Hollow?"

Glenney nodded, adding, "Volatile chemicals could have been secreted in a chambered version, with a tiny valve to intermix the chambers at the right time. The gold itself would have provided excellent shielding. This one, of course, is empty."

"Who were they, and what threat did they pose?"

"Uncertain at this time, sire. However, there is a chance that they posed little or no threat to the Council whatever."

"Meaning?"

"Sire, I suspect they were part of a considerably larger, well-organized effort that felt my people were getting a little too close to uncovering them. I think they set this group up purposely, as decoys, hoping that we'd assume they constituted the bulk of the threat and curtail our investigation. I doubt these five were even aware of it."

The Emperor considered this last. "Whoever was behind them, sacrificed them."

"Yes, sire."

" 'A person who is willing to die for his cause thinks nothing of killing *you* for his cause.' Do you know who said that?"

"Sire?"

"A 20th century writer of plays." The Emperor shook his head at the irony. "What it means is that you are dealing with a group of people who will stop at nothing to achieve their goals. Remember that. Give the investigation of this group your highest priority."

Glenney nodded in agreement.

"Is your next report lengthy?" Glenney nodded again and the Emperor sighed tiredly. "Very well." He closed his eyes for the few moments it took for the images and information to flow into his mind.

The Emperor took a deep breath and straightened in his powerchair when the download had finished. "She has been extremely busy, has she not?" he finally asked.

"Yes, sire," Glenney replied. "Unfortunately, we have been unable to de-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

DO YOU WANT TO BE A SCIENCE FICTION WRITER?

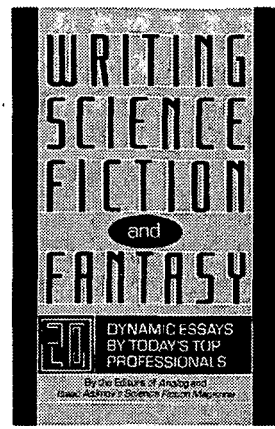
Presenting: WRITING SCIENCE FICTION AND FANTASY

From The Editors Of

SCIENCE FICTION **analog** SCIENCE FACT®

and

ISAAC ASIMOV'S SCIENCE FICTION MAGAZINE



SAVE OVER 25%

The inside tips and trade secrets of todays foremost professionals: **ISAAC ASIMOV** on *New Writers, Dialog,* and *Revisions* . . . **ROBERT A. HEINLEIN** on *Writing Speculative Fiction*. . . . **POUL ANDERSON** on *Imaginary Worlds,* **CONNIE WILLIS** on *Comedy*. . . . **NORMAN SPINRAD** on *Far, Far Futures*. . . . **JANE YOLEN** on *Fantasy* . . . **JAMES PATRICK KELLY** on *Characterization* . . . **AND MUCH MORE!**

Buy from the editors directly and save over ***25%*** off the ***$18.95*** cover price!

☐ Please send me **WRITING SCIENCE FICTION AND FANTASY,** I've enclosed my check for ***$13.95*** (plus $3.00 for postage and handling)

☐ Please charge my ☐ Visa ☐ MasterCard ☐ American Express

My card # _____

Exp. date _____

NAME _____

ADDRESS _____

CITY _____ STATE ____ ZIP _____

M9WG-6

Mail To: Science Fiction Manual
P.O. Box 40
Vernon, N.J. 07462

Books will be shipped by UPS.
Please allow 2-3 weeks for delivery.

OUTSIDE US & POSS ADD $12.00 PRICE INCLUDES GST
ALSO AVAILABLE AT YOUR LOCAL BOOKSTORE.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

termine the exact nature of her discussion with the ambassador, or her motive for meeting with him, any more than we know why she chose to call on Dr. Montgarde."

The Emperor smiled and raised an eyebrow to the security agent. "The first should not be too difficult to guess: she is obviously looking for an alliance of some type between her House and the Sarpan, although to what end we can only guess—I trust you will make finding the answer another of your priorities. However, I agree with you that her motives for calling on the Doctor are, at present, unclear."

"I'll have her detained," Glenney suggested. "For a civilian, even one with a House as important as hers, to directly meet with an official representative of the Sarpan without advance knowledge of the Court—"

"It is unnecessary to quote Imperial law to me," the Emperor snapped. Reaching up, he rubbed his temples with thin, fragile fingertips but made no attempt to apologize before continuing. "Do not detain her. Instead, keep her under a closer watch until you have a better idea as to her motives." He received an urgent, silent query from Brendan and immediately regretted letting the stress of the last several days get the better of him. He exhaled in a wheezing sigh and, even as the medical systems built into his chair started working at a higher rate, gave a silent command to summon his aide.

The door slid open, and the medical attendant walked briskly into the room. Putting duty to the Emperor first, he addressed the aging ruler directly, oblivious to the fact that the security man who had jumped instantly to his feet upon his entrance was only now relaxing his defensive posture.

"Sire, your readings are at levels that cannot safely be sustained." He knelt at the Emperor's side and examined the readouts of the chair itself to confirm the information he'd obviously received moments earlier from his implants. Rising, he added respectfully, but firmly, "I must insist that this meeting be concluded or postponed."

The Emperor studied Brendan for a moment, and determined that his concern was sincere but that he was no longer overly worried—a quick check with the computer showed that the young man had mentally canceled the medical emergency code that had brought him to his private study in the first place.

He took another deep breath, then another, and began to feel his strength slowly returning as the efforts of the powerchair's systems became effective. "Perhaps you're right," the Emperor admitted. *I am so tired.*

"I'll wait in the anteroom." Brendan stepped politely back, reserving any further medical discussion until the Emperor had dismissed his guest, and left the room.

The Emperor returned his attention to the agent, "It is time, Marc, that my son be advised of your findings concerning his former wife. Please see to it that he receives the report I just reviewed, and that he is kept up-to-date on anything else you may uncover regarding her activities."

The man's eyes grew wide. "Sire?"

"Do not question me on this," he said. He narrowed his eyes and looked

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

squarely at the man. "Thank you for your report." He lifted a hand to signify that the meeting had ended and started to pivot the chair around, but stopped when he realized that although the man was now on his feet, Glenney had made no move to leave the chamber.

"Sire . . ."

For a moment, the Emperor thought the man was about to ask him to reconsider his request to inform Javas, but Glenney's eyes—normally unreadable—told him otherwise. "Yes? There is something else?"

Glenney reached into a coat pocket and produced a data stick, rolling it nervously in his fingers as he spoke. "There is an addendum to my report," he began, the barest hint of apology in his voice, "concerning another meeting, that is not yet in the main system. Because of what it contains, I . . ." He hesitated, licking lips gone suddenly dry. "I wished to present it for your personal review before entering it into the main files." He placed the stick in the Emperor's outstretched hand, looking positively relieved to be free of the thing.

The Emperor slipped the stick into a matching slot in the arm of the powerchair and stiffened as the images flowed into his mind. He felt a wave of cold wash over him as he watched Rihana Valtane wordlessly conversing in a private dining booth of one of Armelin City's finest restaurants. Her clothing was entirely out of character, although the thin disguise was probably intended more to avoid public attention to herself rather than Imperial scrutiny. The visual quality of the surveillance report was clear enough to easily detect the amount of wine in her companion's glass, but their conversation had obviously been masked by an audio blocker. He mentally speeded the download, noting time, date, and other particulars of the meeting.

"Their lips were visible through most of what I just saw," he said to Glenney. "Have you attempted a computer reconstruction of their discussion?"

"No, sire. I thought this was important enough to give to you before I did anything with it."

"Thank you for bringing this to me first." He turned the chair away from Glenney and immersed himself in thought. "You are dismissed."

Glenney took a step forward. "Shall I enter this with the other file?"

"That won't be necessary," he lied. He used as much will power as he could summon to control not only his bio readouts, but his emotions as well. "I've already done so."

The Emperor didn't bother to rotate the chair, but the sound of the door sliding shut, followed by a stillness returning to the room, confirmed that Glenney had gone. Dimming the lights to a more comfortable level he looked at the bracelet, still in his hand, and marvelled at the way it reflected even the weak light. *A phoenix*, he mused. *Life, rising from death.* He waited, lost in thought. Less than a minute passed, however, before he heard the door slide open again. He didn't need to turn to identify the newcomer: other than Prince Javas, only one person could enter his study without the Emperor personally admitting him.

"Please have a seat, Brendan," he began, a lightness in his voice belying

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

what he was feeling. He glided the chair around to face the aide finally, adding, "I gather you wish to reprimand me for repeatedly ignoring your medical orders of late."

The man raised an eyebrow and smiled, as he always did when reminding the Emperor of his medical needs. "It appears that my reprimands are taken too lightly, sometimes. However, I trust that once this business of the Hundred Worlds Council is concluded this afternoon you'll finally be willing to accept the medical order I gave you when we arrived, and the one you've ignored the longest: Rest after a long voyage."

The Emperor allowed a smile to form on his lips for the first time since Glenney had come to see him. "Perhaps so. Perhaps so." He stared into the young man's eyes and concentrated, giving a complicated command that caused the study's viewscreen to spring to life, replaying the visual portion of Glenney's report on the data stick still inserted into the chair arm.

Brendan's face drained of all color as he watched the replay, saw clearly Rihana Valtane talking to him at the restaurant. His eyes darted from the Emperor to the screen, then back again several times. He watched himself fidgeting in the replayed scene, and he saw that he had glanced around several times in fear that he'd be spotted talking to her. Sweat rolled down his forehead as he watched, and his body quivered even though he sat rigidly upright in the chair.

The bright images cast a flickering reflection on Brendan's face and white tunic in the dimmed room, adding a grotesque enhancement to his obvious fear and discomfort. The Emperor took no pleasure in it.

The replay stopped as abruptly as it had begun. Except for the sound of Brendan's rapid breathing the room was silent. The Emperor remained where he was and regarded his aide steadily, saying nothing, asking nothing of him. He continuously monitored Brendan's readouts, despite the pain the effort caused him.

"There is a debt between our Houses," Brendan offered at last, his voice trembling. "She—a representative of her House called on me, insisted that I meet with her. I couldn't refuse."

"We know." The Emperor lowered his voice to a whisper. "What did she want?"

Brendan tried to reply, but each time he opened his mouth to speak he reconsidered what he was about to say and attempted to start over. His brow furrowed in puzzlement and his words came in sobs when he finally got control of himself enough to form a coherent answer. "I don't know! She . . . I . . ." He sat upright once more, averting the Emperor's gaze, and tried desperately to regain his composure.

You're telling me the truth, he thought as he monitored several vital tell-tales in Brendan's readouts. The Emperor steepled his hands before him and waited for him to continue.

"I . . . I had made up my mind, long before I was to meet with her, to refuse whatever request she made. The debt between our Houses is centuries old, and I intended to deny it." He looked up again, his face flushed with a mixture of shame and confusion. "I made an

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

oath of loyalty to you, sire, and have lived by that oath. I intended to invalidate the debt, but she made no request!''

''Think carefully,'' the Emperor said. He kept his words firm, but at the same time letting the controlled power of his voice encourage the young man to speak freely. ''What did she say? What did you discuss?''

''Nothing of consequence, sire, I swear.'' His breathing had slowed, and he spoke more calmly now. He shook his head in frustration as he searched his memory. ''It seemed almost, for lack of a better description, like a . . . a family reunion. She asked only about my welfare: Were my duties demanding? Did I need anything here? Had the change in location of the Imperial Court put a greater burden on me? Things of that sort.''

The Emperor listened as he described their conversation, then nodded in understanding when Brendan had finished. He leaned on an elbow, absently pulling at his thinning white beard as he considered the implications of what he'd heard.

''You were used,'' he said flatly. ''Your talk, her questions, seemed innocent enough; and on the surface, I suppose, they were. But I'm just as convinced that her people observed you constantly.''

''Sire, I don't—''

''Your every word, every mannerism was analyzed as you spoke; probably by the very people who advised her what carefully-rehearsed questions to ask of you. She wanted information, Brendan. On how close you are to me. On the current state of my health. On anything to do with my relationship with you or anyone with whom I interact. And you unknowingly gave it to them.''

Brendan sat wide-eyed, his mouth slightly open in shock at the revelation.

The Emperor sighed and shook his head slowly. ''The fault was not yours, it was mine.'' *It was mine*, he repeated silently, *for underestimating the bitch.*

Brendan sank into the chair, overwhelmed by his remorse. ''Sire, I deeply regret my role in this . . .'' Gone was the light banter the Emperor had enjoyed; gone was the assured way the young man had handled his duties for so long, while at the same time allowing the Emperor to retain his dignity. Gone, too, was that which the Emperor would miss most: the closeness he'd been able to share with someone who had become more of a companion than a subject.

''This can be remedied,'' the Emperor said, shaking Brendan from his depression. ''But it will require a sacrifice on your part.''

''Anything, sire!'' His face beamed with the thought that he still might serve his ruler.

The Emperor leaned forward. ''I shall not ask for your agreement in this, for I have already made my decision as to your part in it. Before this day is out you will become the center of Imperial attention; you will be asked many questions by many people.'' He watched Brendan's reaction, weighed it against the look of puzzlement and foreboding in his eyes. ''Say nothing of this. Nothing. Do you understand?''

The young man nodded slowly, uncertainly.

''Say nothing,'' he repeated. ''An-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

swer none of their questions."

"Yes, sire." Brendan's head hung nearly to his chest, his voice quivering as he added: "I understand, but . . . I am not sure I understand why."

The Emperor glided the powerchair close enough to Brendan that he could have touched him and held out the bracelet, its shiny surface catching the light almost hypnotically. "Take this," he said. "Its purpose will be explained later." The medical aide obediently slipped the bracelet into a pocket. "Tell me: Would you give up your life for your Emperor?"

The man's eyes widened, but he didn't hesitate in answering. "Yes, sire. I swore an oath to serve you when I agreed to the implants before leaving Corinth. I would not take back that oath now."

"That is good," the Emperor replied, his voice at once kindly and foreboding. "That is good. Because when this day ends, your life will truly be over."

He glanced at the data stick in its slot and issued a silent one-word command: *Erase.*

5: Endings

Prince Javas stood, alone for the moment, at one side of the stage. Everyone else—Imperial staff, aides, members of the Court, and those taking part in the presentation itself—buzzed incessantly around him.

At the opposite side of the cavernous area were several groups of people. He easily recognized Bomeer and his retinue, and even in the dim lighting could plainly detect the scowl on the man's face. Nearby, Commander Fain gave last-minute orders to some of his people. By one of the rear entrances, Adela stood with the members of her lab team. As he watched, each of the scientists spoke to her briefly, shaking her hand or giving her a quick hug, before she turned and passed through the security check. He realized the necessity of the security efforts, of course, but felt uneasy watching her being subjected to them. Looking away, he caught sight of Glenney, walking vigilantly among them all, glancing first here, then there, apparently satisfied that his security measures were in place.

Only an hour earlier he had felt nervously excited, nervously anxious, and had enjoyed the rush of last-minute anticipation that the years of groundwork for his father's project were at last to be replaced by the real work of the project itself. But the mood of several key people around him—as well as the constant, impatient murmuring of the representatives of the Hundred Worlds Planetary Council filling the auditorium—had affected him greatly in these last moments before the presentation. The raw edge of anxiety in the air had infected him, for the worse, and now he felt simple, common nervousness.

He didn't like the feeling.

The backstage area of the auditorium was enormous, nearly as large as the seating area itself, and Javas felt dwarfed by the massive velvet curtains, open now as last-minute details were being attended to. He stared above him at the flies, noting that Glenney's handpicked men remained at their positions in the catwalks among the hoisted and secured pieces of scenery and lighting equipment. He smiled at the intricacies

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of what went on backstage, things normally invisible to a theater patron but nonetheless essential to a smooth production. *Just like life*, he mused.

Javas stepped around the curtain and glanced at the front of the stage, as he had nearly a hundred times already, confirming once more that the shielding was in place at the edge of the proscenium. It would remain, until the start of the proceedings, on an opaque setting. The crowd on the other side of the shield could not see the dimly lighted stage area behind it, but the bright lighting in the house itself enabled Javas to see occasional movement of the audience on the other side. The silhouettes of a dozen armed Imperial guards just on the other side of the shielding, their backs to him as they scanned the crowd, did little to ease his tension.

"Sire?"

Startled by the sudden intrusion into his thoughts, the Prince turned sharply to his personal aide. "Yes," he snapped. "What is it?"

The aide bowed curtly. "Sire, the Emperor is on his way to the auditorium."

"Very good. Inform Commander Fain that we'll begin as soon as my father arrives."

The man spun about and crossed quickly to the other side of the stage. Javas was about to join Fain himself, but was stopped by a hand lightly touching the sleeve of his dress uniform.

Adela was a vision in a flowing gown of powder blue that fit her exquisitely, accentuating her beauty. Her dark hair, normally restrained or pulled back, tumbled freely across her shoulders. A polished stone hung from a simple silver chain around her neck and she had adorned her hair with a single fire-red flower. She smiled, then turned wordlessly and walked to where Javas had been standing just a few moments earlier behind the gathered curtain.

Javas followed. A security guard in Imperial dress stood near the wall a few meters away. Although forbidden to leave his assigned position, the man made a show of inspecting the catwalks above him. Javas read the nametag on his uniform, making a mental note of it.

He embraced her then and, intoxicated by the way her perfume mixed pleasantly with the natural scent of the flower in her hair, kissed her.

They separated and, still held in his strong arms, Adela laid her head against his chest. "I can't believe it's finally happening," she said at last.

Javas took her chin gently in his fingertips and gazed down into her eyes. "I never doubted that it would." Still cradling her chin in his hand, he kissed her again, more softly this time.

The nearby guard cleared his throat and Javas pulled away slowly, regretfully. The guard nodded across the stage and Javas turned, hands clasped behind his back, to see Fain approaching.

"Commander?"

Fain bowed his head briefly to Adela, then addressed the prince. "Sire, your father is here."

"Thank you."

Fain bowed once more, then hurried to the rear entrance which, Javas could see, was now bordered on both sides by members of the Court. He glanced at the guard and gave him a nod of thanks, then walked across the stage with Adela

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on his arm.

They sat in two formal rows at the apron of the stage, a few meters back of the now-transparent shielding curving invisibly around the edge. There were five places in the first row: The Emperor sat in his powerchair at center stage, flanked on his right by the Prince—now standing as he addressed the assembly with introductory remarks—and Dr. Montgarde. To the Emperor's left was Fain's chair, then his own just to the Commander's left.

Bomeer paid as little attention to what the Prince was saying as he did to the dozen people sitting in the row behind them. He glanced at those seated in the second row of chairs just in front of the closed velvet curtain. Plantir Wynne was there, as was the Emperor's nursemaid, Brendan. One of the scientist's team was there, as well as several other members of the Court.

Bomeer returned his attention to the assembly itself, disturbed by the magnitude of what he'd seen. The auditorium was filled nearly to capacity with the representatives of the Hundred Worlds and their guests, which was something Bomeer had never expected. And except for a smaller section at the rear of the house where a number of representatives not present on Luna were attending holographically, nearly every one of the attendees had made the long trip to be here personally as the Emperor outlined his foolish project.

Although the time for open discussion at the Council would not come until all the presentations had been made, Bomeer's discreet investigations had already told him that support for the plan was strong among the Worlds. He had found a number of representatives who openly opposed the venture, but was unsure if there would be enough opposition to defeat it.

As the Prince spoke of opportunity, advancing technology and benefits to all members of the Empire, Bomeer scanned the audience as the representatives listened in rapt attention to Javas's words.

". . . it will be a time of expansion, a time of science," the Prince was saying. "Each World, giving of its resources and talents, will see itself grow in proportion to its contribution. And you may wonder: what of those Worlds of lower technological background? What of the Frontier Worlds and new colonies just beginning that may have less expertise to spare as they work to shape and build their own homes?" Javas's eyes slowly swept the audience as whispers and nods passed among some of the representatives who apparently had been thinking just that.

"These Worlds, too, will share in this endeavor. The Frontier Worlds, while sometimes poor in technology, are rich in materials essential to the successful completion of the most important effort ever undertaken by the Hundred Worlds. These Worlds, in return for raw materials and manpower, can expect more help in establishing a home than any World has received since the beginning of the Empire . . ."

No wonder there is such a positive feeling among the Worlds, Bomeer thought. *Cooperation is easy to acquire when it's paid for.*

The academician looked back out over the audience once more, at-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tempting to tune out the Prince's words, but was again impressed by the sheer immensity of the assembly. The representatives had been seated, Bomeer realized, according to the distance from Earth of their home planets. Each delegation was identified by a small banner displaying the crest or flag of that planet. Those from the nearer Worlds sat in the front rows, those more distant in the upper portion of the auditorium. The representatives from Earth, Luna, and the orbitals sat in the first row itself.

Bomeer looked at the Earth delegation, and his heart nearly stopped when he saw a tall bearded man sitting with the group. *My God, what is he doing here?*

As he stared at Johnson the man turned sharply and his eyes met Bomeer's unexpectedly. The Earth man's feral, wolflike eyes narrowed suddenly and—was the man smiling at him?

The time has come, the Emperor thought as he listened to his son. Ignoring his own tiredness, he took pride in the way the Prince worked the crowd, in how the representatives of the Hundred Worlds hung on each of his words. *You will make a fine leader.*

Javas had finished speaking and had come to his side to assist him as he prepared to address the auditorium. He glided the powerchair forward about a meter in front of the others and placed his hands firmly on the arms of the chair. With Javas steadying him at his elbow, he pushed himself to his feet. He saw the concerned look on his son's face, and smiled to reassure him that the assisters on his legs, as well as the back brace that enabled him to walk, were working fine.

His heart pounded at the effort of each step, and he felt a bead of sweat running down his scalp as he concentrated hard on keeping Brendan from reading the pain caused by the pressure the brace was putting on his back. He turned to his son and embraced him, then regarded the auditorium once more and waited for the applause to fade.

He raised a hand to silence them, then dropped it quickly to his side when he felt it shaking. A pain rose in his chest and he concentrated even harder on suppressing the information his implants would be trying to send to the bio-readouts Brendan was monitoring.

"Members of the Hundred Worlds," he began, and as his voice echoed through the auditorium sound system he envisioned his words flowing out, not just to those seated before him, but leaping across space itself to the very reaches of the Empire. "Members of the Court; citizens and friends, all. We embark today on a journey, the likes of which make the Empire itself seem small by comparison."

The speech he gave was not memorized, but there had been no need to. He knew what he wanted, needed, to say. There was additional applause periodically as he spoke, and the Emperor took advantage of each pause in the address to catch his breath and refocus his concentration. At one point, his knees shook almost imperceptibly in the assisters Brendan had fitted to his legs, and weakness flowed over him like a wave. At that moment, he sensed Brendan probing him and clamped down even more tightly on his systems to hide what he truly felt.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"In just a few moments . . . a young scientist with a vision will address you in a few moments." His will was drifting and, realizing that his words were becoming rambling and repetitive, he tried to pay closer attention to what he was saying. "Her ingenuity, her drive, and her dreams are exemplary," he went on. The words came with difficulty and a dizziness came over him briefly before he managed to force it away. He was sweating freely now and, no longer able to control the shaking in his hands, kept them riveted at his side. "But without . . . the cooperation of all of us, working together as one, her dreams are nothing. And that, I think, is . . . the real strength of the Hundred Worlds; that each member World, strong in itself, is made stronger by . . . by the association of others."

There was applause again, and the Emperor felt his son's hand on his shoulder. Javas was standing by his side, concern plain in his eyes. The Emperor looked at the other members of the Court seated on the stage. Tears glistened in Adela's eyes and she was plainly frightened. Fain fidgeted in his seat, looking helpless. Even Bomeer appeared uncomfortable as he chewed absently on a lower lip. Javas looked pleadingly at him, then turned to Brendan seated just behind the powerchair and demanded, "Is he all right?"

"I—I don't know!" Brendan sputtered. "His readings are . . . confusing."

There was a look of sheer terror on Brendan's face. Only now did he realize that the Emperor had been hiding his true condition from him all along.

He felt a squeezing in his chest, a line of pain burning down the length of his arm. The auditorium spun around him and he felt himself weaving as the pain flooded in, but found that he couldn't fall as the assisters on his legs automatically compensated for the erratic motions.

"Father!"

Everything happened at once around him, and yet it all seemed to move in slow motion: Javas reaching for him. Brendan on his feet and moving quickly to his side. Fain barking orders into his wrist comm. Adela gasping, hands over her mouth. Glenney bursting through the curtains. Everyone talking, crying, shouting at once. Through it all, a deathly, stunned silence fell over the auditorium.

Another wave of pain wracked him and he pitched forward into Javas's arms. He stopped repressing his monitoring implants, allowing his bio-readout to flow freely once more, and heard an immediate, sharp gasp at his shoulder. Brendan stumbled backward as the sudden messages of pain momentarily overloaded his implants.

Javas eased him to the floor and knelt there, cradling his father in his lap. The Emperor felt the pressure of tiny fingers on his hand and became aware that Adela was kneeling at his son's side, her face a mask of consuming grief.

Free of the burden of controlling the readings his implants were sending out, it became clear now why the auditorium had grown oppressively silent and he realized that someone—Fain, probably, or maybe Glenney—had cut off the audio pickup carrying the presentation to the auditorium sound system. Closing his eyes tightly, he used his last bit

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of strength to search the computer circuitry and found the necessary channel to reactivate the system.

"Hear me," he said, his voice barely more than a whisper. The words echoed in the auditorium and the Emperor smiled weakly as he imagined the signal spreading out. Instantly to Armelin City, then a split second later to Earth, then a few seconds after that to the orbitals, then a few minutes more to the colonies in Sol system, and finally out across the Hundred Worlds themselves.

"Hear me! This is not . . . an ending, but . . . a beginning." The Emperor coughed violently, struggling for breath before continuing. "Do not allow what has . . . been done to me to stray you . . . from . . . our noble goal."

He who is willing to die for his cause. . . . Gasping for breath, he opened his eyes and found Brendan leaning over him. He saw in the young man's ashen face the shocked realization of what his role in this would become and, unable to face him, turned away.

"As I ask you to work together . . . for understanding in this," the Emperor wheezed, "can I do less than demand the same . . . of myself?"

"Father, please. Lie still." Javas's face reflected the pain he felt inside.

The Emperor looked into his son's eyes. "Prince Javas. Son. I—I have made many decisions during my reign. As my last decision, in the spirit . . . of the task which now falls upon you . . . I forgive those who did this to me. I . . . pardon them." His head rolled unceremoniously to the side, and the life went out of him.

Javas eased his father's body gently to the stage, then stood, grasping Brendan's shoulder and jerking him unsteadily to his feet.

"Why is my father dead?" he demanded. "Why was his condition not relayed to medical?" On the Prince's words, Glenney summoned several of his nearest men with a snap of his fingers.

Javas gripped the hapless man by both shoulders now, shaking him as he continued. "You were in constant link with the Emperor; only you could have suppressed his readouts!" He let go suddenly, allowing him to collapse into a sobbing heap, and turned in disgust as Glenney's men dragged Brendan from the stage.

6: Beginnings

The Sun blazed and streamers of red and orange played through the clouds and jet contrails lacing the evening sky. As the Sun finally dipped below the horizon, the red glow in the sky remained well into dusk as the first stars appeared.

What was that poem? Brendan wondered. *Red skies at night . . .* He walked the hard-packed dirt road with no particular destination in mind, but he hoped he'd find the inn soon.

A passing farmer had told him of a place on the outskirts of the village up ahead where he could get an excellent meal and a room for the night. The man had been driving a primitive wooden wagon pulled by two of the most beautiful horses genetic engineering could produce, but when he'd stopped to give him directions to the village, Brendan had noticed an odd array of farming

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

equipment in the back of the rickety wagon. There were several wood and metal hoes, rakes and shovels, as might be expected, each covered with hardened mud and manure. But jumbled haphazardly in with them was an electronic hydro-drill—also mud and manure encrusted—and water condenser components obviously from a state-of-the-art irrigation system.

What a study in contrasts Earth was, with dirt roads and animal-drawn vehicles coexisting with advanced biotechnology and jet aircraft. The strangest thing about it all was that Earthers didn't seem to notice the contradicton. Best to get used to it, he reminded himself, since he'd be spending the rest of his life here.

The inn appeared just over the next rise. It had grown dark and he was close enough to hear the sounds of revelry coming from inside the tavern before he managed to get a good look at it. It was large and inviting, two-storied, and except for the metal sheeting of the roof was made entirely of wood. There was a hand-carved sign that swung precariously above an entrance lighted by two gas lanterns. Several horses tied to a horizontal post pawed the ground nervously as the swinging sign banged against the siding of the house. In the dimness he could just barely discern the outline of a receiving antenna mounted on the roof.

Inside, the tavern was as much a collection of contradictions as anything he'd seen in his two weeks on Earth. A roaring fire warmed the room and oil lamps provided most of the lighting, but a public information screen was mounted just inside the entranceway and music, obviously recorded, filled the room. Seven or eight people sat at the scattered tables, some eating, some drinking; at a table near the fireplace, two men conversed loudly, occasionally bursting into fits of laughter. No one paid him much attention when he entered.

He made his way to the massive wooden bar and ordered a hot meal and a tall mug of the local brew—a bitter, but not unpleasant tasting malt beverage served at room temperature—and carried it to an unoccupied table to await dinner.

"Will you be staying the night then, sir?" asked the innkeeper when he brought his plate, heaped with steaming food. Seeing him closely for the first time, Brendan realized that he was a mere boy, no more than nineteen years old. He was startled for a moment to see someone so young working at a job such as this, but Earthers didn't use life extension and it was commonplace to begin a life's work early here.

"Uh, yes. Yes, I need a room for the night."

"Very good, sir." The boy turned to a woman clearing a table on the far side of the room and whistled over the chatter to catch her attention. He held up two fingers. "Room two for the traveler, Sarah," he called out before turning back to his customer. "My wife'll have your room ready by the time you've finished. Another ale, then?"

"No. Thank you." The boy–no, *young man*, Brendan reminded himself—nodded and returned to his place behind the bar. Brendan finished his meal undisturbed, paid for it and the room, and went up to bed.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Too exhausted to even remove his boots, he fell onto the bed fully clothed. Sleep did not come easily, which was becoming commonplace of late, and he lay staring out the room's single window. Luna had risen, and cast a pale glow across the floor.

I did what you asked, he thought. *I said nothing, told them nothing.* His head ached slightly, although he couldn't tell if the dull pain was caused by the deactivated implants or the strong ale he'd consumed.

Why? Was it so important to you to see this project begun that you had to sacrifice your life this way? Brendan sighed heavily and tossed fitfully in the small bed. He rubbed tired, burning eyes and silently added, *And mine?*

As he had numerous times since his father's death nearly three weeks earlier, Javas met now with the Emperor's two closest friends and advisors in what would have been his father's study. There was much to do now that the Planetary Council had, by an overwhelming margin, approved of Dr. Montgarde's project, and Javas had consulted with Fain and Bomeer repeatedly. The commander, having realized the benefits of the project to the Imperial military fleet, had proven himself to be one of its staunchest supporters. Bomeer, too—although still quick to point out every flaw or negative aspect of his planning—seemed, at least, to have mellowed in his opposition.

Commander Fain paced slowly in front of the viewscreen. "Pallatin has been a thorn in the Empire's side since it was colonized three centuries ago," Fain said in a voice husky from overuse. "They have had little discourse with other Worlds, still less trade and, except for minimal representation on the Planetary Council, prefer to live without Imperial asistance. They even seem unconcerned about how their gene pools have drifted, and have no interest in preserving a genetic baseline. I'm not surprised that Pallatin was among the few of the Hundred Worlds to refuse, outright, their cooperation."

Fain crossed the width of the room, retaking his seat next to Bomeer. "Unfortunately," he went on, "they possess more raw materials necessary for ship building than any of the Worlds. Likewise, their construction facilities are among the finest in the Empire—"

"But they *are* a member of the Empire, even if in name only," Javas finished for him. "As such, they cannot, *will* not refuse, outright or otherwise, the needs of the Empire."

Fain shrugged. The chief of staff of the Imperial Military Forces had maintained throughout his career that a firmer hand was needed with the Frontier Worlds and, while he did not exactly welcome the opportunity to use force, had long maintained that it was necessary and that he was prepared to use it.

"We need Pallatin's cooperation in this," Javas said firmly. "Do what is required, Commander."

Fain nodded in sharp agreement, the slight hint of satisfaction in his manner telling Javas that he was not displeased with the decision.

This meeting, like so many of the others, had lasted hours. Javas rubbed his face with both hands in an attempt to perk himself up and a sudden feeling

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of frustration swept over him, interrupting the subject at hand. Blinking the tiredness from his eyes he let them wander over the study, taking in the viewscreen and the handcrafted woodwork of the cabinetry, the massive wooden desk beneath his fingertips; he'd personally designed this room and all its contents for the Emperor, had it equipped with every convenience, every comfort his father might want. Javas was surprised, when he reluctantly took the study as his own, at how comfortable the room was, how it seemed to "fit" him. The feeling disturbed him.

"Why did he do it? Why did he pardon his own murderer?" Javas pounded a fist on the desk in frustration, startling both men seated across from him. He leaned forward and rested his chin on steepled fingers, staring intently at the two. "You knew him, Fain, better than anyone. Why?"

"I can't answer that, sire." Fain sat rigidly in his chair, not quite at attention, and returned the new Emperor's gaze. There was strength in those eyes, Javas realized, but pain and frustration lay behind them as well.

"Nor can I," Bomeer added softly. He ran a hand absently through thick brown hair more unruly than usual. "Sire, no one could have detected the extent of the threat your father's —'caretaker' presented to his health. No one." He let his gaze fall to the floor as he chose his words, then regarded Javas seriously, but carefully. "Sire, I served your father all my life and, while I sometimes opposed him, loved him as a brother. I spoke candidly to him of my feelings in all things, even when my feelings went against his—as they did concerning this project. It is true that the bluntness of my remarks angered him on occasion, but my advice was always accepted at face value. May I be so bold as to speak bluntly now?"

Fain turned slightly in his chair, an eyebrow arched almost imperceptibly.

"If I learned nothing else from my father, it was to seek—and consider—the counsel of others. Speak freely."

Bomeer cleared his throat softly, and without further hesitation said, "Sire, you are blaming yourself for your father's death."

"Is that so, Academician?" Javas heard the anger rising in his voice. "And how about you, Commander? Do you concur?"

Fain's answer was instantaneous. "I do." He paused, then, as if taking further measure of his new Emperor before continuing. "And if I, too, may speak candidly, sire?"

Javas nodded.

"The guilty parties have been found out, and your father's death itself will rally the Hundred Worlds to his dream. There is much to do, but it is my considered opinion that any preoccupation with his death can serve only to keep us from achieving your father's goals."

Javas opened his mouth to refute the statement, but instead nodded slowly in the realization that the two shared his feelings of guilt. Looking first to one, then the other, he saw that each seemed as tired as he himself felt, and he was certain that a glance into a mirror would show the same circles under his eyes that he saw under those of his companions.

He pushed away from the desk and crossed silently to the viewscreen on the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

opposite wall. Arms folded across his chest, he stared idly at the graphic representation of the Pallatin system Fain had been discussing.

They're right, he thought, still standing before the screen. *We are blaming ourselves*. He sighed heavily and returned to the desk.

"Thank you for your honesty," said the Emperor of the Hundred Worlds.

"Commander, when can you depart for Pallatin?"

They lay next to each other, legs still entangled in the satin sheets of the huge bed, and stared tranquilly at the branches of the trees swaying gently above them. From time to time the rustling boughs parted enough to reveal a field of stars as unfamiliar to Javas as those seen from Luna. He propped himself up on an elbow and smiled at the way the holographic forest around them was augmented by the scent of leaves and flowers, and how the singing of a night bird in the distance seemed to call forth the twin moons now rising through a clearing of thin saplings. He returned his attention to her, taking in the way her hair cascaded over her pale shoulders and how her breasts rose and fell as she breathed. She faced away from him, gazing at the rising of the moons, and he couldn't read her expression. Their lovemaking had been passionate, but preoccupied in the knowledge that she was leaving.

Despite the impression of openness suggested by the holographic forest, the room had grown warm, and as Javas stroked the smooth flatness of Adela's stomach with his left hand, his fingertips glided softly over a thin sheen of perspiration. He furrowed his brow in concentration and silently ordered the temperature lowered a few degrees. An extra moment of will as he concentrated gave rise to a whisper of air that enveloped the bed chamber like a breeze, seeming more a natural part of the "forest" than that of the room's cooling system. Still unaccustomed to the integrator, and still learning to use it with the effortless ease his father had shown, he was already beginning to appreciate some of the finer opportunities it presented.

Adela's breathing had slowed to normal, and was now almost inaudible as she took his hand in both of hers and brought it to her lips, turning to him amid the jumbled covers. She pulled Javas to her and embraced him in a long, warm kiss, but before he could return it, she pulled away and swung her legs over the side of the bed. Without a word she left his side, crossing to a small settee marking the edge of the room and stood, her back to him, silhouetted against the moons as she admired the vista around them.

"Thank you," she said tenderly, "for the vision of home. I've missed it so."

"I had it programmed some time ago," he replied, still leaning on his elbow. "It was to be a gift." *She's so tiny*, he thought, watching the moonlight through the moving trees play across the gentle curves of her body. "Although I'd not intended it as a going-away gift."

It made sense, of course, for her to leave. If anyone could convince Pallatin of the necessity of their cooperation, it was she. Hadn't she, after all, convinced him? If Fain ultimately had to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

use force to bring Pallatin into line, it wouldn't be for lack of her persuasive talents. Then there was the time factor. They both had come to terms with the fact that she would need to follow this project through to its conclusion, requiring either long periods of cryosleep or travel at relativistic speeds or, more likely, both. The round trip would take nearly forty years, in real time, while she would age only a few. He shook his head at the thought of how much older he would be, now that rejuvenation was out of his reach, when she returned.

A bird flew past so close she started for a moment, then giggled in the realization of how silly she was to be so completely fooled by something that wasn't even there. *I love all the childlike, joyously simple things about you,* he thought pleasantly as her laughter reached his ears. *I'm going to miss them.* The thought reminded him of another, more important, reason why he hadn't fought her decision to go: Her personal safety. Until he learned the full truth surrounding his father's death, he preferred she be somewhere else.

There was a soft chiming, so faint that it might have gone unnoticed but for its intrusion in the peaceful setting all around them.

"Acknowledged." Javas pulled a robe around him then went to Adela, who had not moved from her spot near the settee. Standing behind her, he encircled her in his strong arms and kissed her once on the neck.

"It's time, isn't it?" she whispered.

"Yes."

She wordlessly retrieved a light, knee-length tunic from the foot of the bed and slipped it over her head, smoothing it with the palms of her hands before cinching it around her narrow waist.

"I have to go."

Javas nodded and, after taking one last look around at the serene Grisian forest, addressed the room system. "Cancel and store display." The scene instantly dissolved and was replaced by his bed chamber.

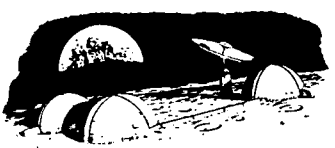
He wanted to hold her, ask—no, command—her to stay, but knew better than to try. Instead, he took her upturned face in his hands and kissed her once.

"Good-bye," he said simply.

Adela smiled and, reaching up to his face, played smooth fingertips over the stubble on his cheek. She stood on tiptoe and kissed him, then turned and quietly let herself out of his bed chamber.

And out of his life for the next forty years. ■

Acknowledgement: The character of the Emperor of the Hundred Worlds is drawn from "Call Him Lord," by Gordon R. Dickson, and is used here with his kind permission.



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Jay Kay Klein's biolog

Many *Analog* writers are extremely articulate, but as far as I know, only A.J. Austin is a professional talker. At the end of his freshman year at Ohio State University, he talked himself into a full-time on-the-air radio job and out of pre-veterinary medicine. Starting with a small "Top 40" station in Weirton, WV, he moved successively to bigger Top 40 stations in Wheeling, WV, Sarasota, FL, and Mobile, AL, where he switched to "Talk Radio." Around Hartford, CT, you can hear him hosting the "Middays Show" on WPOP.

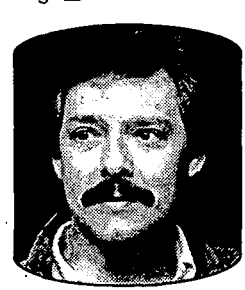
Writing started as a sideline when he found proliferating computer magazines hungry for articles. He even became a contributing editor and a columnist for one. When the boom busted, he continued article writing for other magazines, including *Astronomy, Children Magazine,* and *Thrust.* After four years of non-fiction, he had a first story sale to *Analog:* "Siren", in the July, 1988 issue. Since then, he has become a regular contributor, and has recently written a novel in collaboration with former *Analog* editor Ben Bova, due soon from Tor Books.

Between talking and writing, an assortment of hobbies have had to go, such as amateur theater and most woodworking. When A.J. undertakes something, it gets done thoroughly. Consider his chiming solid-oak, key-wound regulator clock, and the 65 plays in 5 states he has acted in. In fact, consider the Science Fiction Writers of America "letter-column" magazine he started editing. From a haphazard, even sloppily prepared publication in some of its incarnations, *Forum* has become almost computer-neat. Most manuscripts editors received in the "old days" had a "lived-in" look, resulting from manual typewriters' irregularities and writers' disinclination to retype drafts. A.J.'s computer-driven printing engine is surely the wave of the future already here.

Currently, only walking is cojoined to talking and writing for A.J. He still makes time to hike day-long bites of the Connecticut section of the Appalachian Trail with his wife. They met while doing a show together in Wheeling, and were married on the same stage a year later.

The inside of A.J.'s head apparently works something like a solid-oak regulator clock, or maybe a free-running CPU. Sometimes a story appears full-blown in his head, with a beginning, ending, and all the characters. Mostly, though, it's L. Ron Hubbard's "Typewriter in the Sky" syndrome, which I think all writers encounter. Having created a setting with a gimmick such as a scientific discovery or a worrisome situation, A.J. then drops a character into all this and writes down what happens. The characters simply run away with the plot, surprising the heck out of the author. Whatever is happening inside A.J.'s head, something beyond his conscious control appears on the monitor in an unexpected variation of WYSIWYG.

Ron Hubbard's story character, appearing in *Analog's* one-time sister magazine *Unknown*, heard typewriter noises in the sky. While modern computers are silent, A.J.'s characters may well be hearing chimes or the sound of non-stop talking. ■



A. J. Austin

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Are you *sure* it was just coincidence?

SECRET NAMES

Harry Turtledove

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Madyu was boiling up a batch of willow-bark tea when Jorj, the tribe's chief hunter, poked his head into the shaman's tent. "What do you want?" Madyu asked crossly, not caring to be interrupted in the middle of his spells. He was convinced they added to the pain-relieving value of the tea.

"We will be setting out shortly, wizardly sir," Jorj answered. He was a big, broad-shouldered man of about forty, with strong features and a brown beard just beginning to go gray. His skill with a bow had made him rich; he wore a silver quarter from the Old Time in each ear and owned a necklace strung with many more. He did not have it on now, for fear of a mistimed jingle spooking the prey. He went on, "Some magic to bring the beasts to us would be welcome."

"Oh." The spells on the willow-bark tea would have to wait: it was no cure for the ache of an empty belly. Madyu said, "I'll set to work at once, Jorj Rainbowstar."

The shaman kept his voice low, but Jorj's head whipped around in alarm all the same. No one in the tribe save Madyu and perhaps a favorite woman had any business knowing the hunter's secret name; should an enemy somehow come into possession of it, he might use it to wreak all sorts of baneful sorcery.

Jorj said, "I hope the gods are more in the mood to listen to you than they were last moon-quarter. We came back almost empty-handed."

Madyu knew the chief hunter was obliquely criticizing him for having used his secret name. He dipped his head to acknowledge the rebuke. "I shall do my best, I promise you. Magic is chancy and imperfect, as you no doubt know."

"Oh, aye. If it weren't, we'd all be fatter than we are, and that's a fact." Jorj laughed a big, booming manly laugh that finished the job of putting the shaman in his place. Madyu, who was scrawny, clumsy, and nearsighted to boot, felt his ears turn hot. Laughing still, Jorj left the tent and started shouting to the rest of the hunting band.

With a last mournful look at the bronze tea kettle, Madyu decked himself in the raiment required for hunting magic. He, too, had a coin necklace. His, unlike Jorj's, was made of quarters silvery on the outside but with a copper center. Most shamans preferred those to silver. For one thing, they had to have been made by sorcery; no modern smith could turn out anything like them. For another, the numbers they bore were consistently bigger than those on silver coin. Each shaman had his own explanation for why that was so, but all agreed it had to have some sort of magical import.

Madyu bowed to north and south, east and west. He patted the ground to show his reverence for the earth powers, waved his hands through the air to draw the attention of the sky gods. Then he began the first prayer of the ritual, the one to make keen the noses of the hunting hounds.

He was a conscientious craftsman, and did his best to ensure the hounds' success. Not only did he call the beasts *dawgs* after the fashion of his own tribe and those closest to it, he also named them *sheeyas* (as did the KayJun clans to the east) and *perros* like the Maykanoes to the west and south. He did

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

not know or presume to guess which language the gods spoke, but preferred to cover as many bets as he could.

He went on to bless the hunters' boots, to ensure that they slipped through plain and woods without making a sound. He also blessed their bows and arrows, to make the shafts fly straight and true. Again he used all three local languages, and a couple more besides. When tribes met to swap pots and horses and women and metal, shamans generally went off by themselves and traded names. Things were, after all, merely things, and manifested themselves only in this world. But their names, now, their names held power, for names echoed through the spirit world as well.

At any rate, true names, secret names, created those echoes. Madyu remembered the war he'd headed off by ascertaining the secret name of a rival tribe's chieftain and threatening to do dreadful things to the man's ghost unless he called off his warriors.

While never easy, that sort of coup was at least possible with human beings, who acquired their secret names from one another. But who could be sure what the secret name of a dog was, or a willow, or a shoe? That was why shamans swapped names back and forth: in the hope of hitting the one true one among the many.

Having done his utmost with the hunters' animals and gear, Madyu cast the best spells he knew how on the beasts they hunted. As he incanted, he thought that any visiting shaman would have admired his technique: he had the cup made from the tip of a wild bull's horn, the turkey feather, the white-haired deer tail, the rabbit's foot, and the squirrel skin all ready where he could reach them without interrupting his ritual. He summoned the prey by every name he knew, no matter how exotic (in fact, the more exotic, the better). As he did whenever he said the word, he wondered what tribe called a simple, ordinary squirrel a *bepka*.

He was hot and tired and covered with sweat by the time he finished the hunting magic. Heat and sweat had to be lived with in Eestexas. Legend said that in the Old Time people could make the air around themselves cool whenever they wanted. Madyu, a thoroughgoing realist, did not believe the legend for a minute: if people had ever enjoyed such a useful skill, they wouldn't have been stupid enough to lose it.

When he went outside, he squinted against the glare. The sun beat down with almost physical force. The tribal encampment was nearly deserted, with most of the men at the hunt and the women out in the fields. Children ran between tents, raising hell. One of them stopped to grin at Madyu. "Look, look, look!" he squealed, pointing proudly. His grin had a gap in it.

"I see, Hozay," Madyu answered gravely. "What did the tooth fairy leave you?" As he spoke, his hand twisted in the gesture that kept the fairy from stealing teeth that weren't ready to leave their owner's head.

Hozay reached into his belt pouch and took out two good iron arrowheads. "Look, look, look!" he said again.

"Very nice indeed." Madyu fought down a stab of jealousy. The tooth fairy hadn't left him anything so fine when he was a boy. But then, Hozay's parents

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

were close kin to Ralf the chief, and the tooth fairy seemed to favor people who were well off. *Those that have, get, even from fairies,* the shaman thought resentfully.

He couldn't stay mad at Hozay, though. For one thing, he looked almost irresistibly cute with his missing tooth. And for another, he didn't stick around as a focus for Madyu's pique—he dashed off yelling after his friends.

The shaman walked over to the creek, stripped off his linen shirt and buckskin leggings, and dove in. He came up snorting and blowing and at least a little relieved. Then he went down again, swam underwater over to a rock on which a red-ear turtle was sunning itself. The turtle stared in disbelieving reptilian horror when he splashed up in front of its pointy nose. It leaped off the rock and into the creek, frantically churned away. In the water, it was more graceful than Madyu.

He swam a while longer, then went back to reclaim his clothes. He discovered they were not there to be reclaimed. None of the small boys was in sight, either, which gave him more than a little reason to suspect the clothes had not ambled off by themselves. The shaman said a couple of choice things under his breath, added a couple of choicer ones out loud. The shirt and leggings failed to reappear. Swearing and dripping, Madyu went back to his tent.

A few of the women had come back to the encampment for a midday meal. They giggled when they saw Madyu. Ralf's tribe had no strong nudity taboo, nor did its neighbors; given the Eestexas climate, nudity was often more comfortable than clothes. But a wet, angry, naked shaman had obviously just fallen victim to a prank, and so became fair game.

Among the gigglers was Hozay's older sister, Neena. That only made Madyu more furious. Some shamans eschewed marriage, believing a celibate life made their magic stronger. Of those who did take a woman or two, most chose from outside their own tribe. That was not a law, but it was a fairly strong custom: knowing as he did the secret names of his tribesfolk, a shaman might be tempted to try using sorcery to win a girl's heart.

Madyu would never have stooped to such a thing, however pleasant he found the picture of auburn-haired, softly curved Neena sharing his tent. He resolved to go courting at the trade fair a couple of moons hence. But despite that resolution (which he had made, and broken, before), he did not care to have Neena laughing at him. Even a scrawny, clumsy, nearsighted man has his pride.

As the shaman had expected, his missing garments lay close by the tent. The imps who'd absconded with them (and if Hozay wasn't one of them, Madyu would go out and eat grass for supper) knew how far they could go in provoking him. Had leggings and shirt vanished for good, some small backsides would have had an encounter with the switch. Madyu sighed as he got dressed: this one was a clean win for the boys.

Toward evening, a commotion announced the return of the hunting band. Madyu put away the Old Time book he'd been trying to decipher ever since he'd traded another shaman a six-tool

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pocket knife for it. The man was a cheat; if Madyu ever learned his secret name, he'd regret the day he was born. The book's faded cover proclaimed that it had to do with medicine, but instead of talking about how to fix a broken leg or what to do about measles or lockjaw, it went on and on about genes and enzymes and other such incomprehensibilities. Madyu was sometimes tempted to use its pages for kindling, but keeping it around and looking through it every now and then reminded him not to be too eager in a deal.

With some trepidation, he came out of the tent. If this hunt proved as bad as the last one had been, Jorj was liable to clout him into the middle of next week. But the chief hunter wore a grin as wide as a longhorn's span. When he saw Madyu, he clouted him, all right, but it was a happy clout, not an angry one. The shaman staggered just the same.

Jorj caught him, steadied him, patted him on the back. "Look at the fine wizard we have here!" he shouted to anyone who would listen—and he hadn't even been into the blackberry wine. "Look at all the ducks we brought back, thanks to his spells."

"Ducks?" Madyu quacked, but his startled voice was drowned by a chorus of cheers from the rest of the hunters and from the women of the tribe. Madyu looked from one smiling hunter to the next. Sure enough, they were carrying two or three or even four fat ducks apiece, some of the shining feathers now dark with blood.

"Hardly ever seen such a big flock before," Jorj boomed. "They were tipping up in that pond—you know, the one near what's left of the Old Time road, and they were so busy eating, they barely noticed us shooting at 'em till they were dead. Wonderful spells, Madyu! I wish they'd work that well all the time."

"So do I," Madyu said in a hollow voice. He'd magicked rabbits and squirrels, turkey and cattle and deer—he hadn't said word one to the gods about ducks. But here they were, dozens of them. The tribe would feast for a week.

He saw Neena looking right at him and cheering as loud as anybody. When he smiled at her in a tentative way, she smiled back, not tentatively in the least. All at once, the world seemed a brighter place. Maybe he hadn't asked the gods for ducks, but if they sent ducks his way, he'd take credit for them.

He puffed his chest out as far as it would go (standing there beside Jorj, he still looked like nothing much). "I tried something new this time," he declared. "It had to do with genes and enzymes."

"Never knew ducks wore jeans," Jorj said. Joke as he would, though, the meaningless and therefore necessarily magical words impressed him. "Whatever those en-things are, use 'em some more. They were something else."

"I'm glad," Madyu said, bemused still.

By then the women of the tribe were busily plucking the ducks, putting aside feathers for ornament and for fletching arrows, and the soft underdown for pillows, quilts, and jackets. As casually as he could, the shaman strolled over to Neena and asked her for one of the metallic green feathers from a male mallard's head. Their fingers brushed for a moment when she gave it to him. He felt a spark, and from her friendly ex-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pression, she might have, too.

Before long, the savory odor of roast duck drove even lustful thoughts from his mind. Some of the women took out crocks of currant jelly to accompany the feast. Crisp skin crackled under Madyu's teeth as he bit into a juicy thigh; rich hot fat filled his mouth. He ate until he could hold no more, then licked every finger clean.

The rest of the tribe stuffed themselves. Dogs yapped and snarled over gnawed bones thrown in the dirt. A little girl hit her baby brother over the head with a drumstick. He toddled off, crying. Their mother paddled her. She ran after him, crying even louder.

"Here, wizardly sir." Jorj passed Madyu a skin of wine. "Always goes good."

Madyu took a pull, then another one. He smiled, nodded his thanks, belched enormously. Not to be outdone in politeness, Jorj belched back.

Then the chief hunter said, "Oh, what with all the ducks and everything, I almost forgot."

"Forgot what?" Madyu asked absently. He was watching Neena again. Even if she had been his woman, he was too gorged to imagine anything but watching at the moment. Yet watching was a pleasure, too, albeit a small one.

Jorj's answer brought back his full attention: "We came across an Old Time building nobody's ever seen before, far as I know."

"*Did* you?" The descendants of the handful of people who had survived the Big Oops (a term which had as many interpretations as there were shamans) had been picking their ancestors' bones for the past two hundred years. There were a lot of bones to pick, though. Every so often, somebody came across one with meat still on it. Madyu glanced at the dogs, who were still quarreling over remnants of roast duck. He wondered if the godlike men of Old Time would look at his scavenging tribesfolk the same way. No matter: "Where is it? How do I get to it?"

"It's on a patch of fairly high ground that overlooks the pond where we took all those ducks—thanks to your magic." Jorj thumped Madyu on the back and almost knocked him over even though he was sitting on the ground. "It's surrounded by oaks and creepers. I suppose that's why nobody noticed it before."

"Oh." Madyu's spirits plummeted. So many Old Time buildings were nothing more than tumbledown ruins, hardly worth going through. By the way Jorj had spoken, he'd hoped for something better from this one.

The chief hunter was better at noting animals' vagaries than those of his fellow men, but he saw how disappointed Madyu looked. "Cheer up, shaman. I didn't mean there are oaks and creepers growing up through the building. They're just around it. One must have blown down in the last storm, to let us see the walls through the new gap. The building is in halfway decent shape, maybe better. Part of the roof still looks to be on."

At that, Madyu did feel better. If it was true—let the gods make it true! He bent his head, muttered a quick prayer. Then he said, "Will you take me to it tomorrow?"

"Me?" Jorj frowned but finally nodded. "I suppose I owe you that much,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

after you brought us all those lovely ducks."

"What I find in there might make me a better wizard yet," Madyu declared. The ducks hadn't been his doing, but if Jorj insisted on giving him credit for them, he wasn't too proud to take it.

After a breakfast of duck soup and porridge, Madyu followed Jorj into the woods. The chief hunter moved as confidently as if he were walking down the Old Time road not far from camp. Toting a spear he wasn't used to, Madyu blundered along behind him, peering this way and that at every noise. He didn't know why he bothered; he never could see what made them. He thanked the gods he didn't have to go out hunting all the time; he would have been the laughingstock of the tribe.

Because he didn't hunt all the time, he was soft. He'd been puffing and panting for quite a while when Jorj stopped and pointed. "There it is. Do you see?"

"No." Madyu had to walk a fair way in the direction Jorj's finger gave before he could make out a smear of lighter color against the greens and browns of the woods.

"I'll come along, if you like," Jorj said, but he didn't sound as if he meant it. The magic that often lingered in Old Time buildings was dangerous even to shamans. The chief hunter wanted nothing to do with it.

"You don't need to," Madyu told him. If anything worth having did rest inside the building, he wanted it all to himself. But after a moment, he added, "Could you stay within earshot, in case there are snakes instead of demons in there?"

"Fair enough," the chief hunter agreed. He reached into the pack he wore on his back. "Figured you'd say that, so I brought along a songbird net. The ducks won't last forever, however much we wish they would. Pigeons and starlings aren't bad eating, either."

While Jorj looked for a likely spot to string up his net, Madyu scrambled over the moss-covered trunk of the fallen oak. When he made it to the other side, he let out a soft whistle. Jorj had been right: the newly revealed building wasn't badly overgrown at all. After a moment, he saw why—it was surrounded by a stretch of the same hard black tarry stuff the men of Old Time had used to make their roads.

He'd seen other buildings protected that way. They never failed to puzzle him. For a road, the black, hard stuff was almost ideal; even if it was too hard for horses' hooves, it kept the roadway from being overgrown. But why offend the earth powers by slapping it over what could have made a perfectly good vegetable plot? It made no sense that he could see.

For the moment, though, whys did not matter. The black stuff had cracked here and there, allowing some bushes to push up through it, but enough remained to hold the worst of the woods at bay. Windows bare of glass stared blankly out at Madyu, like dead men's eyes. Hefting his spear, he advanced on the building.

He tried the door once. When it didn't open, he went over to one of those windows; Old Time locks were tougher by far than any made these days. Had he not known for a fact that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the men of Old Time enjoyed both godlike power and godlike goodness, that might have made him wonder about their integrity.

Before he scrambled in through the window opening, he paused to sniff. His nose caught none of the rank odor of cat piss, so no cougar (otherwise known as puma, catamount, or, though Eestexas had no mountains, mountain lion) had denned in there any time recently. Just to stay on the safe side, the shaman thrust in his spear, poked around as far as he could reach. Nothing screeched or hissed or writhed under the point, so he scrambled in himself.

His boots scrunched on drifted leaves. He stood still for a couple of minutes, letting his eyes adjust to the gloom. Then he looked around to see what sort of building this was.

A few feet ahead stood a closed door, the frosted glass panel inset of its upper half still miraculously intact. When Madyu saw that door, hope that he'd come upon a real find began to flower. If this place had been looted before, either the door would have been ajar, the glass broken, or more likely both.

Gilded letters marched across the glass. Some had peeled away, but the shaman could still read the words they made: VETERINARIAN'S OFFICE. All at once, his breath came quick and short, as if he and Neena lay joined together on his pallet. In the Old Time, veterinarians had been shamans specially charged with healing animals. An unplundered veterinarian's office might yield—

"Anything," he said aloud, in soft, wondering tones. "Anything at all."

He went up to the door, twisted the knob. He let out a whoop when it refused to turn—would a looter have locked a door behind him when he was through? It seemed anything but probable. He smashed the glass with the butt of his spear. After the rest of his searching was done, he would gather up the sharp shards to use in cutting blades and as arrow points. Nothing from the Old Time went to waste.

He reached into the opening he'd made, opened the door from the inside. The chamber revealed was better lit than he'd expected. A quick look showed why: part of the roof had fallen in, baring the office to the sky—and the rain.

"Oh, a pestilence," Madyu groaned. Everything that had lain anywhere near floor level was long years ruined. Cobwebs lay thick upon every shelf. They covered countless jars of pills. Madyu would have fought shy of those no matter what. Old Time medicines, whether meant for animals or men, were likelier to kill than cure when given by someone who did not thoroughly understand them—which, in the days since the Big Oops, meant everybody.

The shaman went over to a low cabinet with a great many drawers. He pulled one open, tearing more cobwebs. He felt like shouting—in fact, he did shout—when he discovered it was full of little sharp knives of several sizes and shapes. They were as bright and unrusted as if they'd been forged the day before. He scooped them out of their neat pigeonholes, stuffed them into the stout leather sack he'd brought for booty, then tried another drawer.

This one held hollow needles attached to glass cylinders. No one these days knew why the men of Old

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Time had chosen to imitate rattlesnake fangs, but they had. The shaman took a few of the bigger ones; sometimes women in the tribe used them to stick sauces deep inside a joint of meat. Other than that, so far as he knew, they had no use.

Other drawers were full of things which had no use whatsoever that he knew about. A lot of them, however, were made of metal and glass, so they were valuable even if not useful in and of themselves.

But next to the cabinet stood the real prize, a metal bookcase full of books. Or rather, almost full of books: those on the bottom two shelves had, at some time in the unknown past, been chewed up and turned into rats' nests. The bookcase, though, was sheltered from the elements, and had kept its smooth coat of paint. Rodents hadn't been able to get at the volumes on the upper shelves.

Madyu pulled one out, dusted it off, held it close to his nose to read the title on the spine: *Collected Numbers of the Journal of American Veterinary Medicine*. That looked as though it might be interesting. But when he opened the volume, the collected numbers flaked to pieces under even the gentlest touch.

"Pox-ridden paper!" Madyu growled. So many books from Old Time were like girls who teased but wouldn't deliver; instead of giving up the precious information they contained, they crumbled away to nothingness.

Scowling at yet another such betrayal, the shaman pulled out another volume, this one also labeled *Collected Numbers*. He opened it even more cautiously than he had the first. All at once, he grinned in startled pleasure. The numbers collected here were not what the title claimed. Bound inside the spine were half a dozen copies of an Old Time magazine with which he was already familiar, one whose pictures displayed not only incomprehensible ancient artifacts like cameras, CD players, and Toyotas, but also a good many perfectly comprehensible ancient pretty girls in various interesting states of undress.

He closed this volume with the same care he'd used to open it, then stowed it in his leather sack. He had more than a little hope he would be able to get it safely back to the encampment. Unlike the real *Journal of American Veterinary Medicine*, the magazines that had hidden behind the lying binding were made from a shiny, coated paper that was better at withstanding the ravages of time than the more common kind.

The shaman plucked out more books, searching for others printed on the coated paper. He found a couple and put them into the sack. Several others, made from the ordinary variety, disintegrated as soon as he opened them. He murmured a prayer of regret at having destroyed so much irreplaceable wisdom, but did not know what else he could have done.

He picked up the heavy sack, closed the office door behind him, and left the ruin by the window through which he'd entered. He was surprised to note how far the sun had crawled across the sky; he hadn't paid attention to the shadows as he ransacked the Old Time office.

He hallooed for Jorj, and felt a good deal of relief when the chief hunter hallooed back a moment later. Jorj had the knack for moving quietly through the undergrowth; in a couple of minutes,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he simply seemed to appear in front of Madyu out of thin air. He pointed to the bulging leather sack. "Ha! No demons, eh?"

"None that I saw, anyhow," Madyu answered. He'd only meant to be strictly accurate, but saw he'd also succeeded in frightening Jorj. Well, that wasn't such a bad thing. Hiding a smile, he went on, "No snakes, either."

"Good, good. What do you have in there, anyway?"

"Some little knives of good steel, some hollowed needles, glass and metal junk, and some books."

"Books." Jorj's voice informed the word with scorn. "Why bother bringing out books, shaman? What good are they?" Like almost everyone else in the tribe, the chief hunter was illiterate.

"You'll like some of them. Pictures from Old Time." Madyu's hands shaped curves in the air (as they did so, he thought again of Neena).

Jorj's eyes lit up. "You'll trade some?"

"Why not?" Madyu said. "I see you've also done pretty well for yourself."

More than a dozen dead songbirds, their little yellow legs bound together with twine, hung head down from Jorj's belt, along with a possum and a couple of chipmunks. "Could be worse," the chief hunter allowed. "I just wish there was more meat to each one. But as long as I do even this well, we won't be eating grubs and grasshoppers the way we had to a couple of years ago."

"The gods be praised for that," Madyu said, and meant every word of it. Grasshopper stew was vile; no matter how long the insects cooked, they crunched horridly between the teeth. And chief Ralf had been about to run him out of the tribe for weak magic before the famine finally broke. Madyu never had figured out why the gods got so angry at him, or why they finally decided to relent.

Shaman and chief hunter walked back to the encampment in companionable silence, each well enough pleased with his day's work. Thanks to his tasty burden, Jorj got the big half of the wishbone's worth of greetings, but Madyu created some enthusiasm among the men when he told them about the pictures of Old Time girls he'd found.

Neena happened to be standing close by just then, and let out a sniff loud enough to make him regret for a moment coming across the volume with pictures. Soon enough, though, thoughts of profit ousted regret. It wasn't, worse luck, as if Neena were his woman.

After supper but before sunset made reading impractical, Madyu settled down with the other two books he'd brought back from the ruin. One of them, its title page proclaimed, was about the diseases of cats. He read three or four pages, then put the book down with a grunt of disgust. It was as incomprehensible as the one with which the other shaman had cheated him.

He wondered if he was the problem, but shook his head. He read pretty fluently, and the Old Time language wasn't that far removed from the English his tribe spoke (he never had figured out why the language bore that name; he didn't know of a place called Eng anywhere within shouting distance of Eestexas). But this book was crammed full of words he not only

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

didn't know but couldn't define from context: what did *distal* mean, for instance, or *pancreatic function*?

He thought about trading the book to a Maykano; maybe the peculiar words were Spanyol, not English at all. If they were, someone from a southern tribe might get more out of the volume than he could. And if not, well, it wouldn't be the first time he'd diddled someone in a trade.

He picked up the other volume with a certain amount of resignation, convinced from the outset that it would be even worse than the one he'd just set aside. Even its title looked like a nonsense word: *Taxonomy*. "Tax-on-uh-me?" he said, sounding it out. He had some idea what taxes were—tribute you paid to your chief, or that a weak tribe paid to a strong one next door. He couldn't see why anyone would want to write a book about that, or why a veterinarian would need it once it was written. He also doubted Old Time folk had had to worry about anything so mundane as taxes.

But, being a stubborn sort, he decided he would keep going in the book until he found out what its name meant—names, after all, were powerful. He turned to the preface and found, to his surprise, that not only did it tell him what he wanted to know, it did so in a fashion he had little trouble understanding.

Taxonomy, he gathered, was a way of organizing living creatures by how they were related to one another, something like the genealogical charts some shamans drew for their tribes. He whistled softly to himself. The Old Time folk thought big if they aimed to keep track of how everything was related to everything else. He admired their presumption without wishing to emulate it. Just to begin with, how did they propose to keep track of all the different names every living thing had?

Two paragraphs further on, the preface told him: binomial nomenclature. That formidable pair of words almost made him put down the book then and there. But the preface went on to explain what it meant: two names, one generic, to tell about what sort of creature an animal was, and the other specific, to tell exactly what sort it was.

That had the shaman scratching his head again. But this *Taxonomy* book, despite its intimidating title, did a much better job of explaining things than the volume on the diseases of cats. It gave the example of the dog (which, for no reason Madyu could see, it called *Canis familiaris*) and the wolf (which it styled *Canis lupus*). The generic name they shared said they were closely related to each other, while their different specific names said they weren't the same.

"Makes sense of a sort," Madyu admitted. It made enough sense, at any rate, for him to keep reading. His eye lit on a sentence in the next paragraph and would not go away: *The so-called scientific name attached to any organism remains constant throughout the world, enabling researchers to communicate effectively and accurately regardless of their native languages.*

He stared at those words until darkness made them illegible. If they meant what he thought they did, he'd just stumbled across the biggest Old Time treasure ever, bigger than gold, bigger than jewels, bigger even than the usable

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

firearms and ammunition that still turned up every once in a while. If the whole world had once recognized a single (or rather, double) true appellation for every animal and plant, was he not holding a book full of secret names?

He wanted to run through the encampment, shouting, "I've got it! I've got it!" He wanted to get drunk. He wanted to get laid. He wanted to beat chief Ralf at checkers and then laugh in his face. He wanted to do all those things at once. But none of them, nor even all of them at once, would have given him a tenth part of the exaltation he felt sitting here quietly in the dark.

He did his best to keep a sense of detachment. For one thing, he might have been wrong (though he didn't think he was). For another, even if he was right, he didn't know which secret name went with each animal.

That night, he slept with the book beside him on his pallet. When he woke up, the first thing he did was make sure it was still there. When he saw it was, he couldn't have been happier even if it had been Neena there, looking back at him with her big green eyes full of love. He weighed that thought, was a little surprised to find it true, and stroked the book's faded cover as tenderly as if it had been Neena's soft, smooth skin.

Without bothering to break his fast, he opened *Taxonomy*. He felt like cheering when he discovered that many of the scientific names contained therein had more familiar ones alongside them, though the latter were written in brackets and in smaller letters, as if to show they really weren't quite as good or as scientific (a word to conjure with, he thought, and smiled to himself inside his tent) as the impressive products of binomial nomenclature.

Navigating through classes, orders, families, and genera took some doing, but before too long he found that the white-tailed deer's scientific name, its secret name, was *Odocoileus virginianus*. He said it several times. It filled the mouth in a way that *white-tailed deer* never could. Saliva filled his mouth, too, at the thought of venison roasted with bacon and wild onions.

He left *Mammalia* and went over to *Aves*. He ran his finger down each column of names until he found what he was looking for. "*Meleagris gallopavo,*" he intoned reverently, and then again: "*Meleagris gallopavo.*" Not only were the secret names true, they were also beautiful. He knew he'd never be content just to say *turkey* again.

At that point, hunger, excitement, and a bursting bladder drove him outside. After imagining the rich savor of *Odocoileus virginianus* and *Meleagris gallopavo*, duck hash made from rather stale duck proved a disappointment. He was even more disappointed to see Jorj sitting around fletching arrows. "You're not going out today?" he asked in tones of despair.

"Hadn't planned to, no," the chief hunter said. His big, blunt fingers picked with surprising delicacy through a pile of feathers. He found one that suited him, began trimming it to fit the groove in an ashwood arrow.

"But if you do—if you give me time to make a proper magic, a *scientific* magic, first—if you do, you'll bring back deer and turkey both," Madyu said. Jorj stared at him; he'd never made

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that definite a prediction before. "I promise," he added, thinking he'd already said enough to ruin himself if by some disastrous mischance he was wrong.

"How can you promise what we'll catch?" Jorj demanded. "You don't know what we'll stumble on, out there in the woods. You don't know the first thing about what hunting is like; you're only good for stumbling over yourself."

"But I know what I'm talking about when it comes to magic, I truly do," Madyu said. The hunter shook his head, started to go back to feathering his arrow. Desperately, Madyu added, "Didn't I help you bring in all those ducks?" He knew the real answer to that was *no*, but since Jorj didn't know it, he played the card without compunction.

Jorj looked at the bright blue duck feather he held in his hand, then back up at Madyu. Slowly, deliberately, he set aside the feather, put away his tiny fletching tools. When he got to his feet, he towered over the shaman. "All right," he said. "We'll hunt. But if you're wrong—if you're wrong, wizardly sir, you'll not have the chance to make many more such mistakes. Do you understand me, Madyu?"

"I understand you—Jorj." The tiny pause there should have reminded the chief hunter that Madyu knew and might have used his secret name. It was not as good a threat as Jorj's big, hard, bunched fist, however. Even with a secret name, magic had a way of going wrong (Madyu wished he hadn't remembered that just before the most important conjuration of his life). Brute force was inelegant but always worked.

Still shaking his head, Jorj went off to gather the hunting band. Madyu hurried back to his tent. He began to incant as he'd never incanted before; whatever his doubts and worries, they washed away in ritual chants and passes, dances and prayers.

Again and again he intoned the majestic secret names he'd learned. When he held the white-furred deer tail, his cry was, *"Odocoileus virginianus!"* When he pranced with a turkey plume, *"Meleagris gallopavo!"* rolled trippingly off his tongue. As an added touch, he tried to pronounce the secret name as if he were a turkey himself. *"Gallopavo!"* he gobbled. *"Gallopavo!"*

Being a meticulous man, he did not forget some magical encouragement for the pack of *Canis familiaris* that coursed with the hunters. The dogs had as much to do with a hunt's success as the men, sometimes more. They were more susceptible to magic, too, as they lacked the wit that sometimes blunted it when it was turned against people.

At last he had done all he could do. He stayed in his tent regardless, not caring for the loss of dignity that would come from the women of the tribe watching him pace nervously back and forth while he waited for the hunters to return.

Staying inside didn't end up helping his dignity, either. Hozay and some of the other boys started chanting, "Madyu don't dare show his face, show his face, show his face. . . !" With the insane persistence small boys would sooner show in mischief than in honest work, they kept chanting it for a good part of the afternoon.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Madyu looked through the *Taxonomy* book again. If the secret name for *pest* or *infernal nuisance* appeared therein, however, he could not find it.

After much too long, Hozay got tired of singing his old song. If he'd kept quiet because of that, Madyu might —possibly—have found it in his heart to forgive him. Instead, though, he came up with a new one, which he proceeded to bellow out in a boy's falsetto that hurt like a sore tooth: "Neena says Madyu's too skinny! Neena says Madyu's too skinny! Neena says—"

The shaman's temper went up in flames like a dead, dry pine struck by lightning. He burst out of the tent, aiming at nothing less than Hozayicide. Neena's little brother ran like a rabbit, dodging Madyu's every effort to lay a hand on him. And as he ran, he kept singing his new and infuriating one-line ditty.

Finally, puffing and defeated, Madyu drew to a halt. At almost the same time, Hozay decided to shut up. The one had nothing to do with the other. Hozay had heard—as Madyu did too, a moment later—the hunting band coming back from the woods. Little boys know instinctively that adults do not take kindly to their mocking other adults. This does not stop little boys, but it will sometimes make them cautious.

Adults, however, commonly do not care in the least about punishing mockery when they are the ones dishing it out. Madyu stood alone in the middle of the encampment, waiting for the hunters' scorn to land on him—and to obliterate him. The way the rest of the day had gone, he knew his sorcery had to have failed.

Jorj came into the clearing, spotted the shaman. Pointing at Madyu, he looked back over his shoulder and yelled, "Here he is!" His bass bellow made Madyu cringe—by the sound of it, the hunters would not be content with mere insults. They'd want his blood. Had he thought running would do any good, he would have run.

Shouting, the rest of the hunting band followed Jorj into the open space around the encampment. They roared down on Madyu. He needed a few seconds to realize they were cheering him, not cursing.

The ones who came out of the woods first were each carrying turkeys, some more than one bird. The ones who came later had tied gutted deer carcasses to spearshafts that they bore on their shoulders, two men to a spear. All in all, they were bringing back three or four times as much meat as they usually did even on a good day.

Jorj, who as chief hunter did not have to haul prey, hurried into his tent. He came out with his necklace of silver quarters, which he proceeded to throw around Madyu's neck. "Best magic since Old Time!" he shouted, loud enough to be heard in the next encampment. "The turkeys waddled right up to us, the deer just stood there waiting to be killed, just the way our great shaman said they would."

Madyu hadn't quite said anything like that. He hadn't really expected to achieve anything like that; he thought he knew what magic could and couldn't do. *But I never made hunting magic with* real *secret names before,* he thought dizzily. He let a big grin stretch itself over his face and did not bother

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

setting the record straight.

"Well, wizardly sir, what do you have to say for yourself?" Jorj boomed.

The shaman blurted the first thing that came into his head: "Let's eat!"

The hunters cheered again, louder than ever. Boys and girls came running to gape at the enormous catch. Among them was Hozay. Madyu was so full of triumph that gazing at his tormentor only made him wonder how much the tooth fairy would bring if he knocked all the little monster's teeth down his throat.

The racket the hunters and children made brought the women in from the fields early. They stared at the young mountain of meat, too, and then sent up their own screams of joy. Jorj yelled, "We're rich, do you know that, rich! We have more food than we know what to do with. We have so much we can smoke some and sell it to tribes that aren't lucky enough to have a shaman as clever and—what was the fancy word you used, Madyu?—as scientific, that's it, as ours. We can—"

Madyu stopped listening about then, because Neena threw herself into his arms, kissed him, and exclaimed, "Oh, Madyu, you're wonderful!"

The shaman came up for air stunned and gasping, but his hands knew what to do. They grabbed Neena here and there. An instant later, his idiot mind yammered that she would surely pull away—after all, hadn't she said he was too skinny? But she didn't. In fact, she snuggled closer. Off to one side, Hozay looked as if he were about to be sick. That felt almost as good to Madyu as Neena's warm and yielding softness. By way of experiment (he *was* a scientific man), *he* kissed *her* this time. Not only did she return the kiss, but, he noticed dimly, Hozay looked even sicker. Since the experiment was successful, he repeated it.

Emboldened further still by the results of the second trial, he whispered, "Will you come to my tent tonight?"

"Of course I will," she whispered back, her breath moist in his ear. Then she went on, "Why didn't you ask me a long time ago?"

He stared at her. "I—I didn't think—"

"Why ever not?"

"Well—well—" The more he pondered that, the more he wondered himself. He found only one answer that made any sense whatever: "After all, Neena, I know your secret name."

"So what?" She tossed her head so her shining hair flipped back over her shoulder. Then she pointed to one of the gutted deer carcasses. "Did you use it in a spell on me, the way you did with those?"

"Of course not," he said, indignant at the very suggestion. "I'd never do such a thing."

"Well, then," she said, as if that settled everything. By the way she was looking at him, maybe it did. The premise wasn't even slightly scientific; Madyu knew that. But however scientific he thought he was, he was a shaman first, and also knew logic sometimes didn't matter. This felt like one of those times.

His arms tightened around Neena again. She sighed against his cheek. He nodded happily, pleased at the logical confirmation of his illogic. Sure enough, this *was* one of those times. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Hans Moravec

THE UNIVERSAL ROBOT

The biggest obstacles to making it real are the challenges that *sound* most trivial!

Instincts that predispose the nature and quantity of work we enjoy probably evolved during the 100,000 years our ancestors lived as hunter-gatherers. Less than 10,000 years ago the agricultural revolution made life more stable, and richer in goods and information. But, paradoxically, it requires more human labor to support an agricultural society than to live in a primitive one, and the work is of a different, "unnatural," kind, out of step with the old instincts. The effort to avoid it has resulted in domestication of animals, slavery, and the industrial revolution. But many jobs must still be done by hand, engendering for hundreds of years the fantasy of an intelligent but soulless being that can tirelessly dispatch the drudgery. Only in this century have electronic sensors and computers given machines the ability to sense their world and to think about it, and so offered a way to fulfill the wish.

As in the fables, the side effects are likely to dominate the resulting story. Most significantly, these perfect slaves will continue to develop, and will not long remain soulless. As they increase in competence they will have occasion to make more and more autonomous decisions, and so will slowly develop a volition and purpose of their own. At the same time they will become indispensable. Our minds evolved to store the skills and memories of a stone age life, not the enormous complexity that has developed in the last ten thousand years. We've kept up, after a fashion, through a series of social inventions—social stratification and division of labor, memory aids like poetry and schooling, written records stored outside the body, and recently machines that can do some of our thinking entirely without us. The portion of absolutely essential human activity that takes place

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

outside of human bodies and minds has been steadily increasing. Hard working intelligent machines may complete the trend.

Serious attempts to build thinking machines began after the second world war. One line of research, called Cybernetics, used simple electronic circuitry to mimic small nervous systems. It produced machines that could learn to recognize simple patterns, and turtlelike robots that found their way to lighted recharging hutches [Wiener 1961]. An entirely different approach, named Artificial Intelligence (AI), attempted to duplicate rational human thought in the large computers that appeared after the war. By 1965 it had demonstrated programs that proved theorems in logic and geometry, solved calculus problems, and played good games of checkers [Feigenbaum 1963]. In the early 1970s, AI research groups at MIT (the Massachusetts Institute of Technology) and Stanford University attached television cameras and robot arms to their computers, so their "thinking" programs could begin to collect their information directly from the real world.

What a shock! While the pure reasoning programs did their jobs about as well and about as fast as college freshmen, the best robot control programs took hours to find and pick up a few blocks on a table, and often failed completely, a performance much worse than a six-month-old child. This disparity, between programs that reason and programs that perceive and act in the real world, holds to this day. At Carnegie Mellon University there are two desk-sized computers that can play chess at grandmaster level, within the top 100 players in the world, when given their moves on a keyboard. But present-day robotics could produce only a complex and unreliable machine for finding and moving normal chess pieces.

In hindsight it seems that, in an absolute sense, reasoning is much easier than perceiving and acting—a position not hard to rationalize in evolutionary terms. The survival of human beings and their ancestors has depended for hundreds of millions of years on seeing and moving in the physical world, and in that competition large parts of their brains have become efficiently organized for the task. But we didn't appreciate this monumental skill because it is shared by every human being and most animals—it is commonplace. On the other hand, rational thinking, as in chess, is a newly acquired skill, perhaps less than one hundred thousand years old. The parts of our brains devoted to it are not well organized, and, in an absolute sense, we're not very good at it. But until recently, we had no competition to show us up.

By comparing the edge and motion detecting circuitry in the four layers of nerve cells in the retina, the best understood major circuit in the human nervous system, with similar processes developed for "computer vision" systems that allow robots in research and industry to see, I've estimated that it would take a billion computations per second (the power of a world leading Cray 2 supercomputer) to produce the same results at the same speed as a human retina [Moravec 1988]. By extrapolation, to emulate a whole brain takes ten trillion

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

arithmetic operations per second, or ten thousand Crays worth. This is for operations our nervous systems do extremely efficiently and well. Arithmetic provides an example at the other extreme. In 1989 a new computer was tested for a few months with a program that computed the number π to more than one billion decimal places. By contrast, the largest unaided manual computation of π was 707 digits by William Shanks in 1873. It took him several years, and because of a mistake every digit past the 527th was wrong! In *arithmetic* today's average computers are one million times more powerful than human beings. In very narrow areas of *rational thought* (like playing chess or proving theorems) they are about the same. In perception and control of movement in the complex real world, and related areas of common-sense knowledge, intuitive, and visual problem solving, today's average computers are a million times less capable. The deficit is evident even in pure problem solving AI programs.

To this day AI programs exhibit no shred of common sense—a medical diagnosis program, for instance, may prescribe an antibiotic when presented with a broken bicycle because it lacks a model of people, diseases, or bicycles. Yet these programs, on existing computers, would be overwhelmed were they to be bloated with the details of everyday life, since each new fact can interact with the others in an astronomical "combinatorial explosion." (A ten-year project called *Cyc*, at the Microelectronics and Computer Consortium in Austin, Texas, is attempting to build just such a common-sense data base. They estimate the final result will contain over one hundred million logic sentences about everyday objects and actions [Lenat 1989].)

Machines have a lot of catching up to do. On the other hand, for most of the century, machine calculation has been improving a thousandfold every twenty years, and there are basic developments in research labs that can sustain this for at least several decades more. In less than fifty years computer hardware should be powerful enough to match, and exceed, even the well-developed parts of human intelligence. But what about the software that would be required to give these powerful machines the ability to perceive, intuit, and think as well as humans? The Cybernetic approach that attempts to directly imitate nervous systems is very slow, partly because examining a working brain in detail is a very tedious process. New instruments may change that in the future. The AI approach has successfully imitated some aspects of rational thought, but that seems to be only about one millionth of the problem. I feel that the fastest progress on the hardest problems will come from a third approach, the newer field of robotics, the construction of systems that must see and move in the physical world. Robotics research is imitating the *evolution* of animal minds, adding capabilities to machines a few at a time, so that the resulting sequence of machine behaviors resembles the capabilities of animals with increasingly complex nervous systems. This effort to build intelligence from the bottom up is helped by biological peeks at the "back

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of the book''—at the neuronal, structural, and behavioral features of animals and humans.

The best robots today are controlled by computers just powerful enough to simulate the nervous system of an insect, cost as much as some houses, and so find only a few profitable niches in society (among them, spray painting and spot welding cars and assembling circuit boards). But those few applications are encouraging research that is slowly providing a base for a huge future growth. Robot evolution in the direction of full intelligence will greatly accelerate, I believe, in about a decade, when the mass-produced, general purpose, *universal* robot becomes possible. These machines will do in the physical world what personal computers do in the world of data—act in our behalf as literal-minded slaves.

The Dumb Robot (ca. 2000-2010)

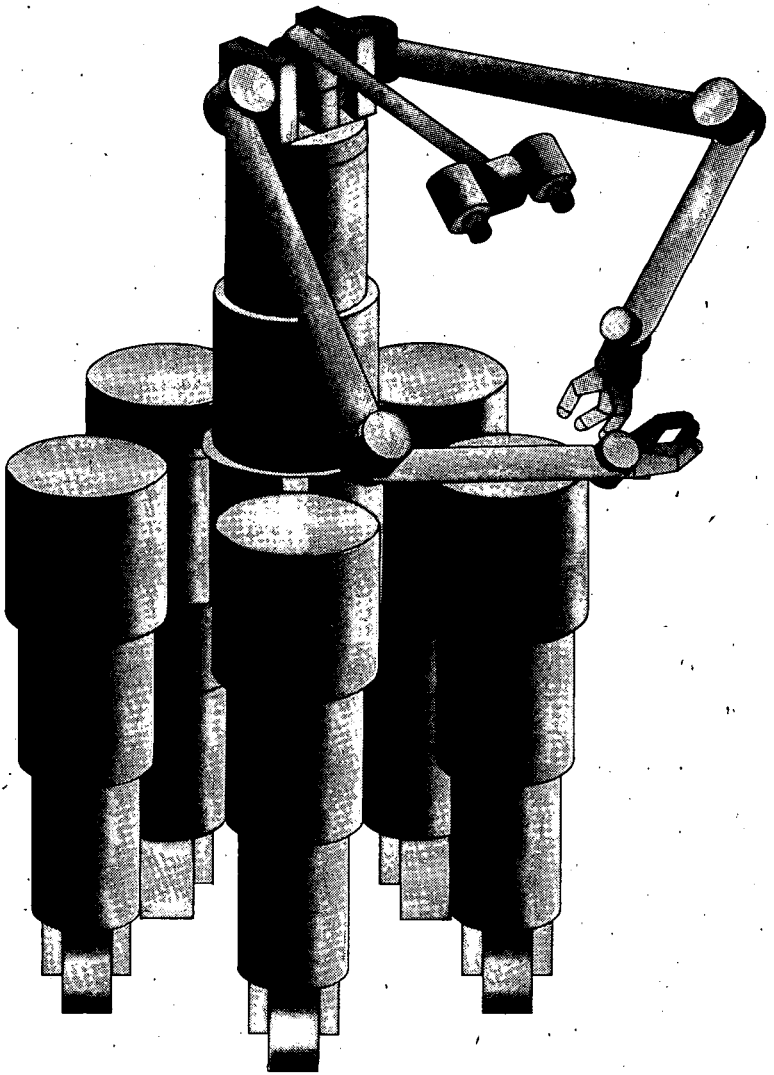
To be useful in many tasks, the first generation of universal robots should navigate efficiently over flat ground, reliably and safely over rough terrain and stairs, to manipulate most objects, and to find them in the nearby world. The beginnings of solutions are here today.

Hitachi of Japan has a mobility system of five steerable wheels, each on its own telescoping stalk that allows it to accommodate to rises and dips in uneven terrain, and to climb stairs, by raising one wheel at a time while moving stably on the other four. My laboratory, at Carnegie Mellon University in Pittsburgh, has a navigation method that allows a robot equipped with sonar range measuring devices and television cameras to build probabilistic maps of its surroundings to determine its location and plan routes [Moravec 1987]. An elegant three-fingered mechanical hand at the Massachusetts Institute of Technology can hold and orient bolts, eggs, and manipulate a string in a humanlike fashion [Mason 1985]. A system called 3DPO from SRI International in Menlo Park, California can find a desired part in a jumble seen by special range-finding cameras [Bolles 1985]. The slow operation of these systems suggests one other element needed for the universal robot, namely a computer about one one thousand times as powerful as those found on desks and in robots today. Such machines, able to do one billion computations per second, would provide approximately the brain power of a reptile and the personality of a washing machine.

Universal robots will find their first uses in factories, where they will be cheaper and more versatile than the older generation of robots they replace. Eventually they will become cheap enough for some households, extending the reach of personal computers from a few tasks in the data world to many in the physical world.

As with computers, many applications of the robots will surprise their inventors. Some will do light mechanical assembly, clean bathrooms, assemble and cook gourmet meals from fresh ingredients, do tune-ups on a certain year and make of cars, hook patterned rugs, weed a lawn, run robot races, do detailed earthmoving and stonework, investigate bomb threats, and much more. Each application will require its

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



A caricature of a first-generation universal robot, showing wheels on telescoping legs, arms with dexterous hands, camera eyes for object-finding, and an implied spatial awareness and navigation system—all operated by a billion operation per second onboard computer

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

own original software (very complex by today's computer program standards), and some may also need optional hardware attachments such as special tools and chemical sensors.

Learning (2010-2020)

Useful though they will be, the first generation of universal robots will be rigid slaves to simple programs. If the machine bangs its elbow while chopping beef in your kitchen making Stroganoff, you will have to find another place for the robot to do its work, or beg the software manufacturer for a fix. Second-generation robots with more powerful computers will host a more flexible kind of program able to adjust self by a kind of conditioned learning.

First generation programs will consist primarily of sequences of the type "Do step A, then B, then C . . ." The programs for the second generation will read "Do step A1 or A2 or A3 . . . then B1 or B2 or B3 . . . then C1 or C2 or C3 . . ." In the Beef Stroganoff example, A1 might be to chop with the right hand of the robot, while A2 is to use the left hand. Each alternative in the program has a "weight," a number that indicates the desirability of using it rather than one of the other branches. The machine also contains a "pain" system, a series of programs that look out for problems such as collisions, and respond by reducing the weights of recently invoked branches, and a "pleasure" system that increases the relevant weights when good conditions, such as well charged batteries or a task efficiently completed, are detected. As the robot bangs its elbow repeatedly in your kitchen, it gradually learns to use its other hand (as well as adapting to its surroundings in a thousand other ways). A program with many alternatives at each step, whose pain and pleasure systems are arranged to produce a pleasure signal on hearing the word "good" and a pain message on hearing "bad," could be slowly trained to do new tasks, like a small mammal. A particular suite of pain- and pleasure-producing programs interacting with a robot's individual environment would subtly shape its behavior and give it a distinct character.

Imagery (2020-2030)

Adaptive robots will find jobs everywhere, and the hardware and software industry that supports them could become the largest on Earth. But teaching them new tasks, whether by writing programs or through punishment and reward, will be very tedious. This deficiency will lead to a portentous innovation, a software *world-modeler* (requiring another big increase in computer power), that allows the robot to simulate its immediate surroundings and its own actions within them, and thus to think about its tasks before acting. Before making Beef Stroganoff in your kitchen, the new robot would simulate the task many times. Each time its simulated elbow bangs the simulated cabinet, the software would update the learning weights just as if the collision had physically happened. After many such mental run-throughs the robot would be well trained, so that when it finally cooks for real, it probably does

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

it correctly. The simulation can be used in many other ways. After a job, the robot can run through its previous actions, and try variations on them to improve future performance. A robot might even be configured to invent some of its own programs by means of a simpler program that can detect how nearly a sequence of robot actions achieves a desired task. This training program would, in repeated simulations, provide the "good" and "bad" indications needed to condition a general learning program like the one program of the previous section.

It will take a large community of patient researchers to build good simulators for these third-generation robots. A robot entering a new room must include vast amounts of not directly perceived prior knowledge in its simulation, such as the expected shapes and probable contents of kitchen counters and the effect of (and force needed for) turning faucet knobs. It needs instinctive motor-perceptual knowledge about the world that took millions of years of evolution to install in us, that tells us instinctively when a height is dangerous, how hard to throw a stone, or if the animal facing us is a threat. Robots that incorporate it may be as smart as monkeys.

Reasoning (2030-2040)

In the decades while the "bottom-up" evolution of robots is transferring the perceptual and motor faculties of human beings into machinery, the conventional Artificial Intelligence industry will be perfecting the mechanization of reasoning. Since today's programs already match human beings in some areas, those of 40 years from now, running on computers a million times as fast as today's, should be quite superhuman. Today's reasoning programs work from small amounts of clear and correct information prepared by human beings. Data from robot sensors such as cameras is much too voluminous and too noisy for them to use. But a good robot simulator will contain neatly organized data about the robot and its world. For instance, if a knife is on a countertop, or if the robot is holding a cup. A robot with simulator can be married to a reasoning program to produce a fourth-generation machine with most of the abilities of a human being. The combination will create beings that in some ways resemble us, but in others are like nothing the world has seen before.

First Generation Technicalities

Both industrial robot manipulators and the research effort to build "smart" robots are twenty-five years old. Universal robots will require at least another decade of development, but some of their elements can be guessed from the experience so far. One consideration is weight. Mobile robots built to work in human-sized spaces today weigh too many hundreds of pounds. This dangerously large mass has three major components: batteries, actuators and structure. Lead-acid batteries able to drive a mobile robot for a day contribute about one-third of the weight. But nickel-cadmium aircraft batteries weigh half as much, and newer lithium batteries can be half again as light. Electric motors are efficient and precisely controllable, but standard motors are heavy and re-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

quire equally heavy reducing gears. Ultra-strong permanent magnets can halve the weight and generate high torque without gears. Robot structure has been primarily aluminum. Its weight contribution can be cut by a factor of four by substituting composite materials containing superstrength fibers of graphite, aramid, or the new material Spectra. These innovations could be combined to make a robot with roughly the size, weight, strength, and endurance of a human.

The first generation robot will probably move on wheels. Legged robots have advantages on complicated terrain, but they consume too much power. A simple wheeled robot would be confined to areas of flat ground, but if each wheel had a controlled suspension with about a meter of travel, the robot could slowly lift its wheels as needed to negotiate rough ground and stairs. The manipulation system will consist of two or more arms ending in dexterous manipulators. There are several designs in the research labs today, but the most elegant is probably that of the so-called Stanford-JPL hand (mentioned above, now found at MIT), which has three fingers each with three controlled joints. The robot's travels would be greatly aided if it could continuously pinpoint its location, perhaps by noting the delay from a handful of small synchronized transmitters distributed in its environment. This approach is used in some terrestrial and satellite navigation systems. The robot will also require a sense of its immediate surroundings, to find doors, detect obstacles and track objects in its workspace. Research laboratories, including my own, have experimented with techniques that do this with data from television cameras, scanning lasers, sonar transducers, infrared proximity sensors and contact sensors. A more precise sensory system will be needed to find particular work objects in clutter. The most successful methods to date start with three-dimensional data from special cameras, and laser arrangements that directly measure distance as well as lateral position. The robot will thus probably contain a wide angle sensor for general spatial awareness, and a precise, narrow angle, three-dimensional imaging system to find particular objects it will grasp.

Research experience to date suggests that to navigate, visually locate objects, plan and control arm motions, the first universal robots will require a billion operations per second of computer power. The 1980s witnessed a number of well-publicized fads that claim to be solutions to the artificial intelligence or robot control problem. Expert systems, the Prolog logical inference language, neural nets, fuzzy logic, and massive parallelism have all had their spot in the limelight. The common element that I note in these pronouncements is the sudden enthusiasm of a group of researchers experienced in some area of computer science for applying their methods to the robotics problems of perceiving and acting in the physical world. Invariably each approach produces some simple showcase demonstrations, then bogs down on real problems. This pattern is no surprise to those with a background in the twenty-five year research robotics effort. Making a machine to see, hear,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

or act reliably in the raw physical world is much, much more difficult than naive intuition leads us to believe. The programs that work relatively successfully in these areas—in industrial vision systems, robot arm controllers and speech understanders, for example, invariably use a variety of massive numerical computations involving statistics, vector algebra, analytic geometry, and other kinds of mathematics. These run effectively on conventional computers, and can be accelerated by array processors (widely available add-ons to conventional machines which rapidly perform operations on long streams of numbers) and by use of modest amounts of parallelism. The mind of the first-generation robot will almost certainly reside in quite conventional computers, perhaps ten processors each able to perform 100 million operations per second, helped out by a modest amount of specialized computing hardware that preprocesses the data from the television eyes and other sensors, and that operates the lowest level of mobility and manipulation systems.

Mind Children (2050+)

The fourth robot generation and its successors, with human perceptual, motor abilities, and superior reasoning powers, could replace human beings in every essential task. In principle, our society could continue to operate increasingly well without us, with machines running the companies and doing the research as well as performing the productive work. Since machines can be designed to work well in outer space, production could move to the greater resources of the Solar System, leaving behind a nature preserve subsidized from space. Meek humans would inherit the Earth, but rapidly evolving machines would expand into the rest of the Universe. This development can be viewed as a very natural one. Human beings have two forms of heredity, one the traditional biological kind, passed on strands of DNA, the other cultural, passed from mind to mind by example, language, books, and recently machines. At present the two are inextricably linked, but the cultural part is evolving very rapidly, and gradually assuming functions once the province of our biology. In terms of information content, our cultural side is already by far the larger part of us. The fully intelligent robot marks the point where our cultural side can exist on its own, free of biological limits. Intelligent machines, which are evolving among us, learning our skills, sharing our goals, and being shaped by our values, can be viewed as our children, the children of our minds. With them our biological heritage is not lost, it will be safely stored in libraries at least, but its importance will be greatly diminished. ■

About the Author

Hans Moravec has been thinking about thinking machines since he was a child in the 1950s. He built his first robot, a construct of tin cans, batteries, lights, and a motor, at age ten. In high school he won two science fair prizes for a light-following electronic turtle and a tape-controlled robot hand. As an undergraduate

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he designed and began construction of a computer to control more sophisticated robots, and then experimented with learning and automatic programming techniques when commercial computers became available to him. During his master's work he built a small robot with photoelectric eyes and other sensors controlled by a minicomputer, and wrote a thesis outlining a computer language for artificial intelligence. He received a Ph.D. from Stanford in 1980 for a TV-equipped robot, remote controlled by a large computer, that successfully negotiated cluttered obstacle courses to arrive at desired destinations. Since 1980 he has been director of the Carnegie Mellon University Mobile Robot Laboratory, birthplace of three mobile robots that navigate cluttered spaces with a sense of spatial awareness derived from cameras, sonars, and other sensors.

References

[Wiener 1961] Norbert Wiener, *Cybernetics or Control and Communication in the Animal and the Machine* (second edition), MIT Press, Cambridge, Massachusetts, 1961.

[Feigenbaum 1963] Edward Feigenbaum and Julian Feldman, eds, *Computers and Thought*, MacGraw-Hill Inc., New York, 1963.

[Bolles 1984] Robert Bolles, Patrice Horaud and Marsha Jo Hannah, 3DPO: A Three-Dimensional Part Orientation System, in *Robotics Research: The First International Symposium*, Michael Brady and Richard Paul, eds., MIT Press, Cambridge, Massachusetts, 1984, pp 413:424.

[Mason 1985] Matt Mason and Kenneth Salisbury, *Robot Hands and the Mechanics of Manipulation*, MIT Press, Cambridge, Massachusetts, 1985

[Moravec 1987] Hans Moravec, Sensor Fusion in Certainty Grids for Mobile Robots, *AI Magazine* v9#2, Summer 1988, pp 61-77.

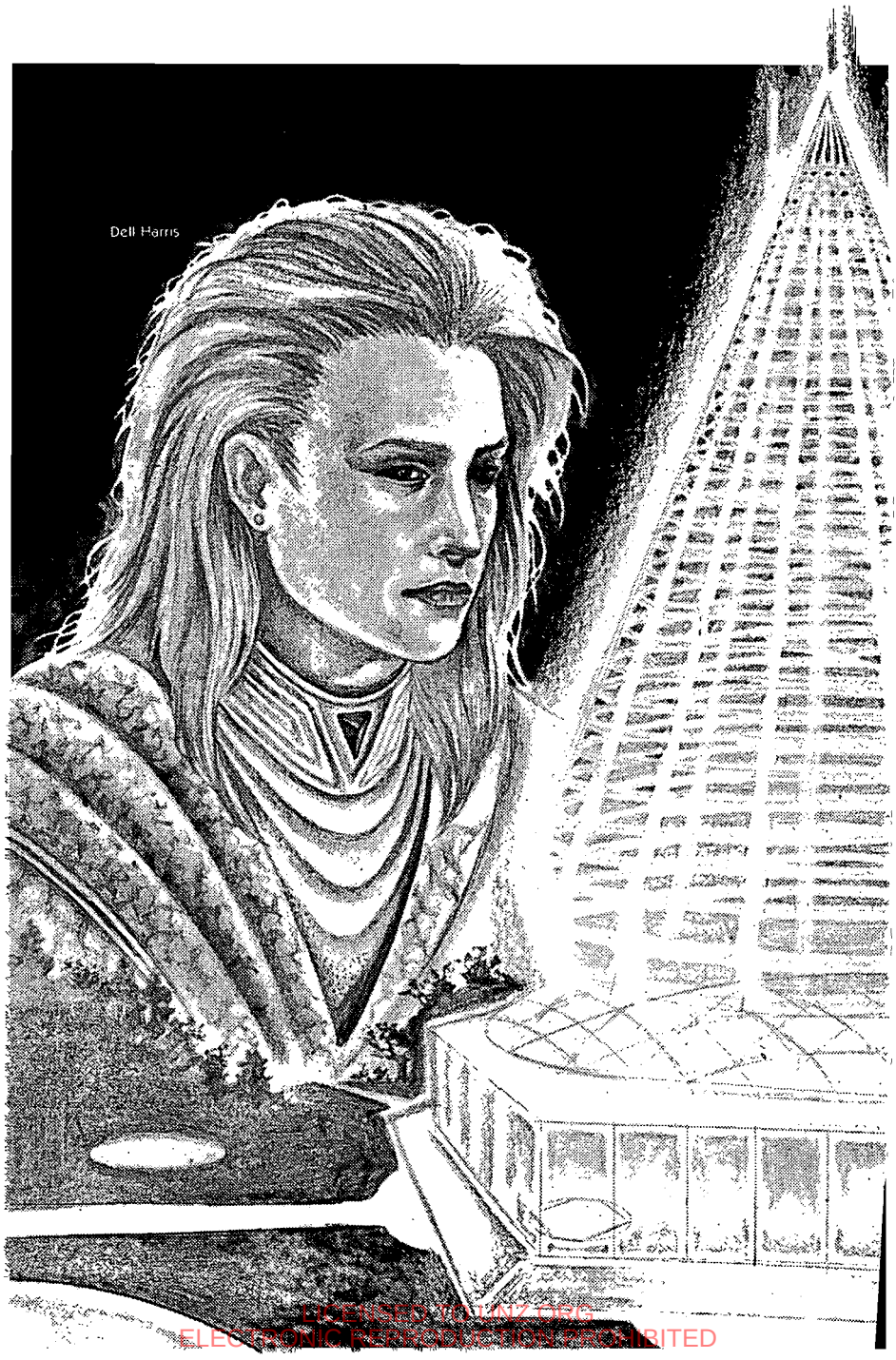
[Moravec 1988] Hans Moravec, *Mind Children: The Future of Robot and Human Intelligence*, Harvard University Press, Cambridge, Massachusetts, 1988.

[Lenat 1989] Douglas Lenat and Rajiv Guha, *Building Large Knowledge-Based Systems: Representation and Inference in the Cyc Project*, Addison-Wesley Publishing Co., Reading, Massachusetts, 1989.

●Genius is nothing but a greater aptitude for patience.

George de Buffon

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

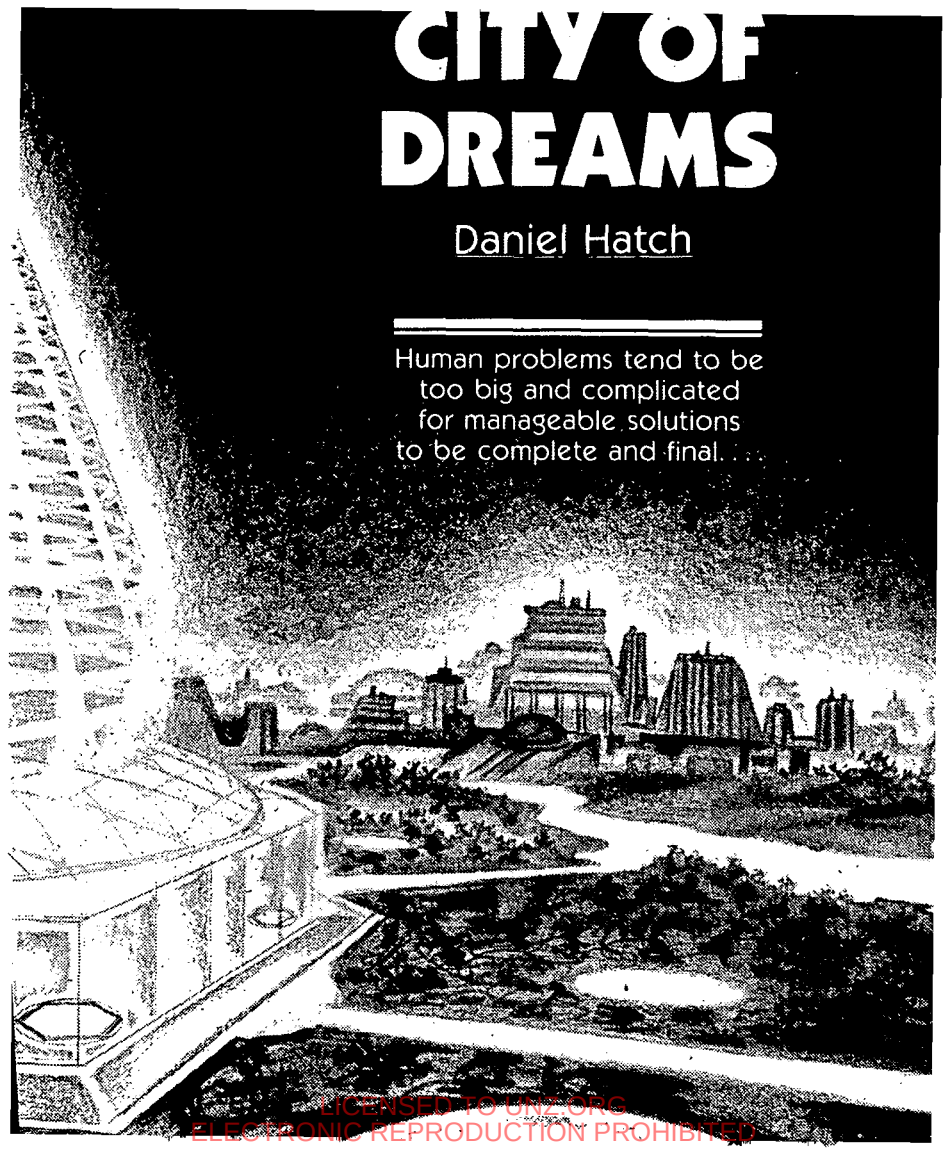


LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

CITY OF DREAMS

Daniel Hatch

Human problems tend to be too big and complicated for manageable solutions to be complete and final. . .



LICENSED TO UNT.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ONE

"I'm sorry, your vehicle is not authorized to enter this airspace," warned a sweet contralto computer-generated voice. "If you continue on your present course, Traffic Control will be forced to intervene on your guidance computers to divert your flight path. This warning will be repeated only once."

Ellen Brindamour's attention had been focused on the way the setting sun turned the land beneath her into a combination of gold and mud-brown shadow, punctuated by grey towers rising out of the twilight on the ground. The interruption drew an appropriate response—she stuck her tongue out at the speaker.

Then she fiddled with the aircar's computer, reaching deep into the security commands.

"This is Youngstown Traffic Control. I'm sorry, your vehicle is not—" The voice caught itself, then coughed. "Warning canceled. Welcome to Youngstown city center. Public landing zones are restricted to Federal Street and the Commercial Street Aircar Corridor."

"That's better," Ellen said. "You don't intervene on an Intervenor."

She looked out at the Mahoning River, a silvery ribbon of reflected light that wound its way through the gathering darkness. Lights had begun to come on, little clusters to the north and south, crowded grids in the towers, and all around the tight streets of Youngstown center.

She dipped lower as she approached the bend of the river that cupped the city. Along its banks, like a bulwark against the stream, was a row of steel and brick shells—the remnants of the steel mills that had built the city centuries ago, now preserved as a memorial. The steel had passed the city by in just one century, of course, leaving it to languish in post-industrial decay for another hundred years.

But that was history. The problem now was steel above the city, not steel mills within it.

Ellen banked into a tight spiral over the mills that brought her back around towards the east, putting the sun behind her as she dropped onto Federal Street. She came to a stop just short of a central square dominated by a fifteen-meter-high granite shaft topped by a man in an antique uniform. The base of the shaft was ringed by four black cannons.

She secured her car, then hurried the two blocks down Market Street to the courthouse. She rushed up the steps, skipping the chipped and broken ones, hurrying between the high columns and into the lobby. Figures five meters tall reenacted local bits of history across its walls, but were unable to distract Ellen Brindamour. She was late.

The hearing was upstairs, another maddening delay. There was no powerlift in here—another touch of history that she thought could be done without.

The high door squeaked loudly when it opened and rang like a bell when it slammed shut, drawing the attention of everyone in the chamber—with the exception of a man in a hand-tailored suit who was narrating a hologram display at the front of the room.

The room was packed, seats filled with restless, anxious, middle-aged professionals—quite a few of whom also wore hand-tailored suits. They regarded

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the hologram display with serious distaste. She worked her way along one wall to the front of the room, up to a wooden rail that kept the citizens separated from the officials.

From there, she could see the hologram perfectly.

Spread out in the space between the applicant's table and the long bench where the commissioners sat was the city of Youngstown, looking much cleaner and more easily interpreted than it had been from the air a few moments earlier.

The center city covered only a few blocks—not much more than a few square kilometers. Surrounding it were gardenlike parks dotted with cluster villages, some tucked away within sylvan glades, others spilling across the countryside. And running up and down the river were rows of apartment towers, marking the high-water mark of urbanization from the post-Collapse era. Somewhere near the edge of the display the wilderness of the North American hardwood forest—as modified by two hundred years of the greenhouse—was reclaiming its own.

"Six foundation plates for the arcology will be placed at the corners of a hexagon one kilometer to a side. We have selected a site northwest of the city center, so as to preserve the historic hub of the region. That would put the plates in the indicated locations."

Red pads appeared to one side of the city. Ellen oriented herself and verified that it was to the northwest.

"The pads will be anchored by bolts of steel, which will be inserted from orbit," the man in the suit continued. "The arc itself will rest on the pads. This is a precaution against earthquakes. Even though stress on the New Madrid Fault was relieved by the great St. Louis Quake back in 2113, we expect an event of the same magnitude within the expected lifetime of this structure."

Blue geodesics began rising from the red pads in the holo-display and growing together in a single mass.

"The base structure will go up from the pads and link together in less than ten stories," he said. "Then the core will go up—current height is being put at five hundred meters, even though we don't expect decks to be installed above the three-hundred-meter mark in this century."

A white design that resembled an onion bulb sprouted from the base structure. It was swollen at the bottom to fill the blue scaffolding, but it narrowed quickly as it rose.

"Decking will go up last. One deck every fifty meters, open at the center around the core. Construction on the decks is up to you and can be programmed however you wish."

The onion bulb was suddenly shackled by green disks that followed its pregnant curve more than half-way up its length. Yellow blocks splattered themselves throughout the decking, blocking out much of the white glow of the core.

"The entire project is expected to take ten years to complete," said the suit. "But we expect to be open for occupancy in less than five. That is, if the commission and the courts find their way clear to approving our proposal."

The suit returned to the table and sat down. The hologram display shrank

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

abruptly to a quarter of its original size and shifted to the side of the room where Ellen could see it best.

"Thank you very much, sir," said a white-haired man in the center of the panel of commissioners. "Now, is there anyone else who would like to speak in favor of this request?"

There was nothing but silence in the room.

"If not, is there anyone here who wishes to speak in opposition to this request?"

An angry growl rose suddenly from the crowded chamber as the audience came alive. Ellen drew back as more than a hundred otherwise respectable technicians and professionals, the elite of Mahoning County, degenerated before her eyes into a screaming, hostile mob.

The commissioners declared a half-hour recess when it was clear that they weren't going to gavel the crowd into silence. Everyone wanted to talk at once and no one was willing to wait.

Ellen took the opportunity to mingle and strike up a conversation. After a few minutes, she picked on a short woman in her twenties with thick auburn curls and a high-pitched voice that seemed to cut through the background murmur of grumbling and griping. She wore a dress with a high hem and a high collar—the one to flatter her legs, the other to frame her face.

"Did I miss anything?" Ellen asked her. "I came in late."

"Just the guys in the suits making their pitch," the woman said. "Introductions and a lot of self-serving propaganda. They said they really wanted to help us, then they had the nerve to tell us we were overreacting to their plans. They're lucky all we did was shout."

"I guess so," Ellen replied noncommittally. "Is there anyone who's in favor of this thing?"

"The masses, of course. But they're always doing stupid things like that. They don't know what's good for them. That's why they need us to keep things running. If we didn't tell them what to do, they'd all end up like the retros down the river."

"By the way, my name's Ellen Brindamour. I came up from Pittsburgh to sit in on the hearing. I'm an engineer, and I thought it might be interesting." None of that was a lie, though in the past three years, Ellen had had plenty of training in how to lie convincingly. The first rule was to tell as much of the truth as possible.

"An engineer? Do you support this . . . this monstrosity?"

"I'm not that kind of an engineer. I do extraterrestrial stuff, mostly. No, I have some friends in the steel business and they asked me to check the hearing out."

"I'm Diana Trayner, attorney for the Mahoning County Taxpayers Association."

"Taxpayers?"

"Well, I know taxes are only a formality these days, but the thought's what counts. We're not going to let them ram this thing down our throats. Not without putting up a serious fight."

The tone of Diane's argument was somewhat abrasive, but Ellen found something admirable in her spirit. She was direct and unabashed. She believed that she and the other technicians and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

professionals in the county were privileged and superior to the masses and the retros—especially the retros. They didn't have the education to know what life was all about. They had to be led.

Ellen didn't ask, but she was sure that Diane was an Only Child. They were always so smug, self-assured, and self-centered. Her older brother had taught her that many years ago.

Oddly, Diane's aggressive attitude towards the lower classes of Youngstown and Mahoning was offset by a personal charm and warmth. She bought Ellen a cup of coffee at a dispenser in the hallway while they waited for the hearing to reconvene. The lawyer tended to the coffee service, adding cream and sugar to order before handing the cup over to Ellen. The contradiction was startling, but appealing.

"So what do you think, should I invite their engineer out to dinner?" Diane asked when they returned to the hearing chamber. "He's such a darling—when he isn't trying to make it sound like water will run uphill. What do you think?"

Ellen felt embarrassed. She had never had much luck with men. She blamed it on herself. She usually wound up driving them away, arguing with them the way she used to fight with her brother. And she had never really come to grips with her own femininity—hiding from it in ways that she could not discuss with Diane Trayner or anyone else in this county. The hearing was the first excuse she'd had in months to bring out her only hand-tailored dress and jacket.

But she recovered quickly and made sure Diane never noticed. She smiled and nodded knowingly. The less said, the better.

"On second thought, by the time this hearing is over, I don't think I'm going to want to get near him," Diane shot back.

It wasn't long before Ellen realized what she meant.

The man in the suit—his name was Foster Eklin and he was project manager for the arcology—spent the rest of the evening trying to defend himself from attacks that were unfair and unreasoned.

"Who needs it?" snapped one grey-haired old man who claimed to be a maintenance chief on the early tube-lines. That was the extent of his argument, made loudly from the speaker's rostrum and followed by loud applause.

"What will happen to our city center?" asked a matronly government aide. "Youngstown has been the center of life in this county for hundreds of years. This new creation will change all that. We'll lose the special character of life that ties us to our history."

"What about wind resistance?" asked a surly young tech-type. "This is tornado country, you know. What would happen if a twister hit this thing?"

"You'd have strand steel from here to Pittsburgh!" jibed some smart mouth from the rear of the hall.

Diane was the most rational, though that didn't take much.

"The fact of the matter is that this building has a capacity of a million and half. Now that's five times the population of Mahoning County," she said, pausing to let the numbers sink in. "Tell me something, Mr. Eklin—what

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

are we supposed to do with another million people in this county? What kinds of services are we going to have to provide? How are we going to manage that kind of population? What are they all going to do? Before we can approve a project of this magnitude, we need the answers to those questions and a whole lot more."

Eklin, for the most part, tried to avoid a confrontation he couldn't hope to win. When he was given another chance to testify, he sidestepped the issues and tried the straight pitch again.

"As you know, this kind of architecture has been the norm in the major metro centers all over the world—New York, Tokyo, Berlin, Mexico City. But those arcosystems are on a much grander scale than this. Over the past sixty years, the technology has developed to the point where we can put up single-stacks like this one in all the regional metro centers like Youngstown. This is a step towards the future, with proven technology and proven social benefits. There's no good reason to stand in the way of this kind of progress that will benefit everyone in the county."

But Eklin couldn't admit the simple truth that the crowd in the hearing chamber did not want to benefit everyone in the county. Ellen knew the same bitter truth. The benefits in Mahoning were already distributed just the way these people liked them—from the top down.

After a while, everyone had had a chance to talk more than once. Too many had taken the chance and too many only repeated the words of others. By the time they exhausted themselves, everyone in the chamber was ready to go home.

But Diane Trayner tagged along with Ellen as she left the building, full of nervous energy that released itself in a steady stream of words. She talked about her family, her childhood in Youngstown, her house in Mill Creek Park, the terrible things the retros did during the night, and the endless calamitous effects of technological progress on the face of her city.

"First the steel mills came and brought people here from Central Europe. Then they closed and the people had nowhere to go. Instead of moving on and up, they just wallowed in their own poverty. It was the same after the Petro-Collapse—another generation devastated by a change in the technological base, all rounded up in the towers along the river. When the gravitron was invented, the masses left the towers for the countryside again. The retro gangs and militias took over the towers and left us to feed their people. And now this thing—this arcology. What's that going to do? Who's going to be destroyed this time?"

Ellen was struck by Diane's passion, misguided though it was. She felt much the same about the city of Youngstown and the people of Mahoning County. Though her final judgments about their fate might come out a little different from Diane's, the concerns were the same.

By the time they reached the tall monument in the center of Public Square, most of the crowd had dispersed and they were practically alone on the streets.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Diane had paused to catch her breath and Ellen was looking at the stars when a sudden sound behind them made Ellen jump and a chill run up her back. She spun around to see Foster Eklin hovering just a few steps away.

"Good evening, ladies," he said. "I hope I didn't startle you."

"Just out of a year's actuarial expectancy," Diane said. "I thought you were a retro raider. They do come into the city, you know. Sometimes they do a lot of damage before the robocops show up. Will your arcology make room for them too?"

"Please don't take my advocacy personally, ladies," Eklin said. "We should be professional about it. In fact, I was just about to invite you out for a cup of coffee."

"Afraid not, counselor," Diane said. "I've got a lot of work to do preparing a written critique of your project."

"It won't be any trouble. I know a nice spot near Pine Hollow Park that's still open this time of night."

"Really, Eklin, can't you take a hint?"

"We can let the firm pick up the tab."

Ellen stepped forward and interceded at that point. "What part of 'No' didn't you understand?"

Eklin looked flustered, but only for a second. Then his immobile plastic professional face returned.

"I guess if you've got other plans, I'll find someone else," he said, turning and walking back towards the courthouse.

When he was out of sight, Diane looked at Ellen and began laughing. She kept it up until she was red in the face and tears fell from her eyes.

"That was marvelous," she said. "For a small woman, you are awfully imposing, Ellen. For a minute, you even frightened me. I'm so glad you were here. If it hadn't been for you, I might have let him talk me into it."

"I'm sorry. Maybe I shouldn't have spoken up. I mean, you said earlier—"

"Never mind what I said earlier. That was just mindless speculation. You know, we're not exactly Madame Chandra or Lillian Tregaskis rebuilding the civilized world out here in the boonies. But we're still women and sometimes we have to remember that. Or the Foster Eklins of the world will put us back where we were in the Dark Ages."

"I know what you mean," Ellen said. "I have a brother like that."

Diane raised an eyebrow, but made no other response. Ellen, however, felt her blood turn to ice water as she heard her own voice make the slip. You couldn't pretend to be an Only Child if you had a brother.

"I'm sorry," Diane said after a while, as they passed the high monument in the center of Public Square. "I've done all this talking while you've been quiet and polite. I hope I'm not boring you."

"On the contrary," Ellen said. "This has been quite interesting. I grew up inside Pittsburgh, so I never had a choice about living in an arcology. I guess it must be quite different if you have a home. An outdoor home, I mean."

"I guess it is," Diane said. "Although the masses have homes—outdoor homes—and for some reason they *want* to build the arcology. I'm afraid

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that they're going to pressure the commission into approving the thing."

"Can they do that?"

"Technically, yes," Diana said. "But if they do, I hear some of the city officials are talking about asking for an Intervenor to come and overturn the decision."

"An Intervenor? Do you think they'd get involved in something like this? I mean, I don't want to belittle your problem, but I just thought they had bigger things to worry about."

Diane pouted, then replied: "This is big. Maybe it's not riots at a moonbase, but it's just as serious to us. And they do too get involved in little things. You only hear about the big cases, but you'll find them around places like Youngstown."

"I guess I never gave it much thought," Ellen said.

But as Diane finally said good night and they each headed to their aircars, Ellen let a mischievous grin break across her lips. One bald-faced lie was not a bad record for the evening.

John Patterson scanned the bridge carefully, listening and looking before he directed Secomp's electronic eyes and ears across it. All he could see was a few blocks of stone littering the edges of the dark pavement. And he could hear the trickle and splash of the Mahoning River below. The sewer smell of it burned his sinuses.

He let Secomp look it over and when it was satisfied, he crossed quickly, gliding along one edge, keeping to the shadows. The added security was probably unnecessary, but a year of wandering had taught John to keep his guard up. Even with the century-old security computer strapped to his body, danger could find him without warning—especially in the old city sectors like this one.

It was a long way back to West Virginia. John had walked many miles and avoided many dangers thanks to Secomp. This was his first really big city, though, and he wasn't quite sure what to expect. Most of his travels since leaving home this spring had taken him through the farming lands of southern Ohio. All he'd run into down there were the service towns that maintained agricultural machinery to feed the millions who lived in the arcologies to the north and east.

His feet ached just a little as the end of another day came. His daddy had offered to let him use one of the family cars—the old junks that they kept running through hard work and cannibalized spare parts from the acres of recycling yards down the valley. But John had insisted on making his voyage of discovery on foot. There isn't much you can see from an aircar, he'd argued. And you don't meet many women that way. His father hadn't pressed the issue.

The apartment towers of Brier Hill were cold black slabs of silent steel and concrete, rising before him. A few lights still burned within at this late hour, revealing gaps in the otherwise unbroken facade.

But Secomp revealed a life to the building that John's eyes could not detect. It used a holo-generated virtual image to show John the building's defenses. Bright radar beacons blinked at the tops of the towers, sweeping the air

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and ground around them. Dimmer but just as deadly were smaller intruder radars set near the base of the buildings. Secomp marked off passive acoustic sensors with a symbol that resembled a red flower and turned the barren gravel that surrounded the towers into a garden.

John hesitated, then pressed forward, keeping to the radar shadows outlined by Secomp. The computer led him to a metal shell a few hundred meters from the base of the nearest tower. John recognized it as a discarded tubeline container that had split down the middle from metal fatigue.

He stepped into the shelter, scanning it first in IR to make sure it wasn't already occupied. He spread out his poncho on the ground and sat down. Then he sent Secomp on a deeper mission.

It probed the outer defenses of the tower, then followed the signals inside. It gained access to the central data systems that linked the sensors, traced them back to the main computers, and finally infiltrated the master control program that kept them operating. After a few minutes of searching, Secomp found what John was looking for. It produced a new holo-image in the empty air of the tubeline container.

Three walls of a crowded room appeared, the ground became the floor of the chamber, and filling it were consoles and a half dozen surly young men about John's age. Their muted voices sounded angry and defiant, and carried the sharp edge of familiarity laced with hatred—towards one another and towards the enemies outside the walls of the tower.

"They going to come back tonight or they going to wait until daylight?" asked one tough.

"They going to come back when they feel like it, Badger. You ain't going to make 'em hurry by complaining," replied another.

Badger whined. "I'm just getting tired of this. You try watching the screens, Lizard. You really think the computers are going to miss something?"

"You never know what the militias are going to use on us," said a third man. "There's stuff around that could fry our computers blind and let a whole batallion in here from Girard if we don't watch the screens."

"Right. And we're going to stop them if they do that," Lizard sneered.

"Just hope you can," said the third man.

John Patterson waved his hand and the scene disappeared. He decided to have a little fun.

He stood up, put his poncho back over his shoulders, and walked across the gravel field towards the apartment tower. Secomp showed tracking radars locking onto him, crisscrossing the empty yard around the building. A few seconds later, floodlights came on.

John called up the audio from the internal security monitor that Secomp had tapped into.

("What's that?")

("They's coming back.")

("It's only one.")

John adjusted Secomp to produce decoys—just a battalion's worth.

("Aaaaah!")

("Where'd they all come from?")

("They ain't on the screens. I can't see but one of 'em.")

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED.

("Get the security team out there. Arm the turrets.")

While it would have been fun to watch, John decided he didn't want to see the full security evolutions of the tower's militia. He directed Secomp to cloak him from the radars and shut off the floodlights from within the building. A moment later, the yard was plunged into darkness again, relieved only by the ghost images of radar beams sweeping the ground without effect.

("Now where'd they go?")

("What the—")

By the time the heavy steel doors of the tower squeaked open, John Patterson was nearly half a klick away, just close enough to hear the anxious and confused shouts of the security squads as they stumbled around in the dark. He chuckled softly to himself, then continued on his way towards a park to the north.

TWO

The next day, Ellen Brindamour found herself in a strikingly different surrounding.

After leaving Diane Trayner in the center of Youngstown, she had taken her aircar to the public landing at North Side and followed the directions she'd been given to a housing module in the nearest cluster village.

She woke early, and instead of the hand-tailored dress she'd worn the night before, she donned a pale orange shift made of coarse fabric dispensed by the fashion-comps in the village center.

The module was small and cramped. There were three rooms—one bedroom, a kitchen-dining area, and a parlor. The ceiling was low, the walls made of thin plastic, and the windows small and hard to open. That was just as well, since the nearest neighbor was only a couple of meters away and with the windows open, Ellen could hear the sounds of early risers clearing the sleep from their lungs and sinuses.

She slipped on a pair of white sandals and stepped out into the yard.

A dozen modules opened into the same small area, and a path led up the hill to the community center. She walked alone to the building, treading a well worn trail across the lawn to the showers: Inside, a robocleaner was just finishing its work, disinfecting the floors and spraying the air with a deodorizer that almost worked. Ellen stripped off her shift and washed, passed through the blow dryer, and dressed again. Then she left the showers and went around to the other side of the commons where the smell of hot food and the sound of clinking metal issued forth.

There were only a few men and women in the cafeteria. They sat alone, except for three women who were engaged in a hushed but energetic conversation in one corner. Ellen drew a cup of coffee and ordered a stack of griddlecakes. The machinery clicked and clanked, and a few minutes later, her breakfast was ready. She took the tray and sat down just within earshot of the other women.

"So anyway, Madge said if she ever caught Billy in that mod again, she was going to tube his butt to Cleveland," one of them, a red-haired woman with big fleshy features, said in a voice that rose in volume as she spoke. She glanced over at Ellen, but otherwise

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

paid her no notice.

By the time breakfast was over, however, that changed. The redhead stopped at Ellen's table as the party made for the exit.

"You're new around here, aren't you?" she asked. "We don't get many transfers. Where are you from?"

Ellen swallowed hard. This was probably going to be a harder masquerade to pull off than the show the night before, but she hoped she could conjure up enough of her childhood memories from life with the breeders in the Outside stacks of the Pittsburgh arcology to pull it off.

"Lorain," she said. "I came in last night. It was a sudden switch. My husband, well, he's kind of rough and they said I shouldn't wait around for him to get out of custody. So anyway, they sent me here. Doesn't look so bad, I guess. Like Lorain."

"You'll get used to it," the redhead said. "Come on, I'll introduce you around."

The day went by quickly after that—and the masque became easier to maintain as she went along. Toni Quinnell—the redhead—brought her around to meet her friends from breakfast and escorted her to the admin center where she drew her work assignments for the day. She was slated for two hours of baby-sitting at the child-care center after lunch and an hour of kitchen work before supper. Toni told her that those were choice assignments for a single woman—she wasn't convinced, however, and a part of her was glad that she wasn't going to be living in North Side for more than a day.

She spent the morning with Toni and her friends at the fashioncomp, putting together a couple of nice outfits at the design console.

"Are you going to the hearing tonight?" Toni asked. "They want as many people as possible to be there. They're after us 'cause we're so close."

"What hearing?" she asked, playing dumb.

"About the arc. They want to build one here in Youngstown. Everyone in North Side is behind it. It would get us out of this campground, that's for sure."

"Sounds like fun. Can I go with you?"

The invitation was offered and quickly accepted. Ellen smiled inwardly, happy that the most difficult task of the day had been accomplished.

The child-care center was an eye-opener for her. The kids were excited and lots of fun, covering a range of ages. Some of them were obviously siblings, while others had the standoffish attitude of Onlies. They ran and played in the grassy parklike open spaces that separated the housing clusters from one another until it was time for class.

And that was the startling part of the experience.

They filed into the children's center and took their places on the floor around the holo-image of a teacher. The image remained motionless until they were ready, then the young man in charge of the group for the afternoon signaled for the class to begin and it came to life.

"Good afternoon, children, how are you today?" the teacher asked, smiling as she turned to address the entire group.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Very good, Mrs. Brown," they replied.

"That's wonderful. Today we are going to talk about how to behave in groups. It's very important that you know what is and isn't acceptable when you go out in public. At your age, you aren't expected to know all the rules, but soon you will be. We will start this morning by discussing restricted areas. What is a restricted area?"

One of the oldest kids raised a hand and waved it anxiously.

"Yes, Pierre?"

"It's like the city center or one of the apartment towers near the river."

"That's right. The city is restricted because there is important work going on there. And the towers because they aren't safe. But there are also local restrictions for safety—like the zones around the tubelines—and for social reasons—like neighboring villages. We don't want to intrude on someone else's privacy, do we children?"

"No, Mrs. Brown," they chanted in unison.

Mrs. Brown continued on in the same vein as Ellen became more and more amazed at the lesson. Growing up inside Pittsburgh hadn't prepared her for the strict demarcation of social groups out here on the ground. But what really surprised her was the willing and eager cooperation everyone showed in maintaining the segregation.

Ellen knew that a hundred years or more ago, security computers and police forces had helped maintain the social order in the crowded urban areas like Youngstown. But robocops had long since taken over the security function. Now a subtle web of social expectations had replaced the brute force of an earlier era. And watching the kids being indoctrinated with those values made her feel uncomfortable.

She wondered if the discomfort came from her own background—five years in the Corps of Planetary Engineers with its strict discipline and rigid social codes. She had turned her back on all that three years ago, tired of the regimentation and the male-dominated values the corps maintained.

At the end of the hour, however, she had decided that there was something decidedly wrong with the way the masses were teaching their children. With the compnet, the same lessons were being dispensed in all the cluster villages. But technology that could link the villages was being used to keep them dispersed.

The electronic villages were producing generations of electronic peasants, she realized fretfully.

Stambaugh Auditorium was a great pile of limestone and steel more than three centuries old. The big hall sat in the middle of several acres of landscaped park, with date palms lining the roadways that surrounded it. Ellen smiled as she reflected on the irony of the palms. When the auditorium was built, they were not part of the landscaping scheme—they were a much more recent addition, courtesy of a greenhouse effect that only made itself felt a hundred years after the building went up.

She walked beneath them along with hundreds of residents of North Side and other cluster villages from the area. As they neared the hall, her attention was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

drawn from the date palms to the crowds that had assembled in the auditorium's forecourt.

There had to be several thousand people out there—and they didn't sound happy.

The group she was with halted at the approach to the steps, and one of the women in the lead went on ahead. Meanwhile, they listened to a man with thick grey hair and a long grey beard who had mounted a stone wall and was addressing a portion of the crowd.

"Last night, the elites in Youngstown Center told the Planning Commission that they don't want to see this building go up. They told them that it meant the end of their city and their community."

The younger men in the front groaned with disgust, while others shouted epithets and jeers.

"Well, we're here tonight to let the commission know that we aren't afraid of the end of their city and their community. Youngstown isn't ours—it belongs to them. We can't even set foot in there without the robos coming after us. We don't care if it means the end of their community—because it will mean the beginning of our own!"

Everyone cheered loudly, including the women with Ellen. Before the grey-haired man continued, the leader of the North Side women returned and led them around the edge of the larger crowd to an entrance in the side of the building.

"We're supposed to go inside," Toni told her as they began filing into the auditorium. "The rest of them will stay out here—there's too many to fit them all."

"Stay out here for what?" Ellen asked.

"You don't want to know, sweetheart," Toni replied.

Ellen's group totaled about fifty women from North Side, and they took seats in a single row near the back of the hall. Down on the stage, a long table had been set up where the commissioners sat. Other tables had been placed at the ends for the men in suits from Cleveland who had proposed the project. She recognized Foster Eklin when he stepped up onto the stage.

Another man in a fancy suit followed him—an older man who, judging from Eklin's posture and gestures, was senior to Eklin in stature and status. Ellen watched them talk for a few minutes, then the older man left the stage and headed back down into the audience.

Ellen tried to follow him as he threaded his way past jeering masses, keeping track of him until he disappeared through a doorway at the rear of the hall behind her.

An hour passed before the seats of the auditorium were all filled, and another fifteen minutes before the hearing finally began with the bang of a wooden gavel on the table top.

They began with a recap of the presentation Ellen had missed the night before. She paid a more than passing interest to the technical descriptions of the arcology's engineering—the water supply, tubeline easements, fields of receivers to pick up power beamed down from the satellites.

Eklin went through the same spiel for this group that he had for the smaller group in the courthouse the night before. Only this time, the holo display

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was about ten times larger.

And this time, the presentation brought applause and shouts of appreciation instead of angry rejection.

As he spoke, Ellen found herself trying to place the members of this crowd—including her newfound neighbors from North Side—within the computer-generated structure that hovered above the stage. They were the same kind of folks she had grown up with inside Pittsburgh—plain people with limited experience and a sharply circumscribed view of the world. Lacking in skills and education, they were unsophisticated folks who spent most of their energies on living simple lives—finding lovers, making babies, raising children, celebrating the occasional milestones of family life. They had no cultural roots and no real ties to the villages where they lived. Giving them up for the shining steel and glass tower would require little emotional disruption.

But she wondered if they would be any better off there than they were in the glorified campgrounds of the cluster villages. . . .

No such doubts affected the men and women who spoke up in favor of the arcology.

They included a white-haired old woman with a creased face who urged the commission to think about the health of her neighbors. . . .

"You folks downtown probably don't know much about this, what with your medicomps and all, but you can catch diseases out in the villages. It gets wet and cold in the winter and so thick and hot in the summer you can't breathe, and sometimes old-timers like me have trouble making it through the year. They say the arc's going to be climate-controlled, perfect weather all the time. Well, I'm in favor of that."

A mother with a baby on her hip . . .

"My kid shouldn't have to grow up outdoors in the dirt. The bugs bite her in the summer and in the winter, the retros come through and terrorize us all."

A bearded man with a swollen red nose . . .

"You folks in the city are used to having things your way. You get the best of everything while we have to live out here in plastic houses and eat recycled food. This is our chance to get some of it."

A young man with a thick shock of blond hair . . .

"I want to be more than my father and my grandfather and my great-grandfather. We haven't accomplished a thing in generations but raise kids—and you make us send the smartest ones to Cleveland or Pittsburgh. The arc will mean they can stay home and help the rest of us get more out of life."

They went on and on, repeating the same basic themes. At first, Ellen felt the strength of their passions and desires. The women with her voiced their support as the speakers told their stories.

But after a while, she began to listen more critically. She had been trained to use a sharper ear than the women of North Side, and she heard echoes of darker things beneath the surface.

The masses in the auditorium voiced the resentment of generations shut out from the social life of their world. They were jealous and angry, envious of the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

elites in Youngstown center whose training and skills had given them benefits that the masses did not enjoy.

They saw the arcology as an opportunity for freedom and power and status. They were driven by the emptiness of their own lives, and were ready to believe that the arcology would fulfill all their unsatisfied dreams.

Ellen knew better than that. Life inside an arc was neither fair nor equal. These people couldn't know what it was like to live under the tight pressures of a high-density society—even though the vestiges of authoritarian social control were all around them. They couldn't imagine the bigoted hatred of Only Children for the breeders. All they knew was that their lives had been managed by others for as long as anyone could remember. And for some reason, they thought the arcology could change all that.

Why? Ellen couldn't quite understand why they didn't sense that truth. Part of it was the narrow worldview of the electronic peasants—limited to their own experiences and without a full understanding of the world beyond their villages. But there seemed to be a more sophisticated thread to the arguments the speakers were making.

She focused her thoughts on the underlying logic of the testimony being given, trying to sort out the threads of truth from the threads of falsehood. But it wasn't until the keynote speech of the evening that the tapestry made itself clear to her.

Assemblyman Joel Farr was a massive man, almost as wide as he was tall. At first, Ellen thought it was a genetic quirk, then she realized that he was just obese, feeding too long and too freely from the endless banquet of power. He showed a sophistication that belied his connection to the masses who filled Stambaugh Auditorium. His words were simple, but his appeal was complex, resonating with their yearnings and their anguish.

"As you have heard tonight, commissioners, my people are unhappy with their lives," he said, his voice booming throughout the hall. "They want what they do not have. And they know why they do not have it. They are being denied the birthright of a wealthy and powerful world because of the mere accident of being born outside the city center. Because they lack some special talent or skill that sets them apart from their fellows. Because they are plain and ordinary and unremarkable."

The hall rumbled in agreement.

"You have the power to change that. You can relieve their suffering. You can put an end to their misery. The masses in our great urban arcologies have been liberated from the soil. They have ascended to cities that touch the clouds, that quiver with life and energy, that glow with the electricity of millions of souls, cities full of dreams and dreamers. And all the while my people huddle in the face of a hot, harsh world, a steam bath of deprivation and need."

Ellen felt her skin crawl. The man was a total fraud, an actor on a vast stage playing a role without conviction. The way he called the masses his people sent cold shivers up her spine. He couldn't be unaware of the truth. He had to know what life was really like in Cleveland and Pittsburgh—and New York and London and Tokyo and all the rest.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

And he still urged the commission to approve the arcology and bring the masses into its towering decks and stacks.

She sensed a lust for power in his oratory, a desire that could not be fulfilled. And with a shudder of fear, she realized that the people in the hall were unaware of the deeper evil that lurked inside the mass of flesh that gave voice to their irrational passions.

"Let me leave you with a word of warning," Farr said as he made his summation. "Do not deny my people their freedom. Their anger is a fearful thing. They have power that goes far beyond your officious formalities. They will know if you betray them and they will not allow you to escape the consequences of your actions."

That brought an animal growl from the masses that rolled off the walls of the auditorium. It was met by a louder cheer that filtered in through open doors in the rear of the hall—the voices of those outside.

Ellen knew at that moment that the entire night had been orchestrated with this moment as the climax. There was a sinister intent behind the crowds, the testimony, and Farr's final speech. Something told her it was more than just the political opportunism of the fat man on the stage—either intuition or the sum of three years of training.

And she had to know what it was.

She watched as Farr bowed awkwardly to the audience, then to the commission, before waddling off the stage. It wasn't hard to see where he went after that, his bulk made him an easy target to track. He seemed to take forever to work his way up the long inclined aisle to the rear of the hall, behind Ellen and her neighbors.

He paused outside a door, spoke briefly to someone waiting there, and then stepped through the door into a room beyond.

Ellen smiled with grim satisfaction as she realized that it was the same door that Foster Eklin had stepped through when he was done with his presentation. There was the link to the darker forces. The lies he told were not in the service of his people, but in the interests of those who would build the arc.

She wished there was some way she could know for sure how strong the connection was and how deep the collusion.

She looked around her and saw that some of the women were getting restless. The hearing had already gone on for more than two hours. And although Farr had finished his speech, the emotions it had stirred had not subsided. The hall buzzed with a formidable intensity as the commission dallied over the list of witnesses. The sounds from the crowd outside seemed to grow louder as well.

Ellen decided to make her move.

Toni and her friends looked up at her in surprise as she rose and pushed past the others in the row, working her way to the aisle. She broke free and headed up to the back of the hall where a growing number of people had begun to gather, looking out the open doors at the seething mob in the forecourt of the auditorium.

She gave them only a quick glance before she headed for the doorway that had swallowed Eklin and Farr. The crowd was thicker as she approached her goal, and she realized that it in-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cluded a dozen or more strong young men arranged in a loose phalanx around the door. Of course—there was more to this than words.

How could she get past them and into the room? There had to be a way. She considered her alternatives and decided an indirect approach would offer the best chance of success. She would face the stage and work her way sideways along the rear wall. The guards were mixed with what seemed to be ordinary spectators. If she was lucky, they wouldn't notice her until it was too late.

She turned her back to the rear of the auditorium and began to move—

"Ellen? Is that you?"

The voice shot through her like a bolt of lightning. There, standing no more than three meters away from her, was Diane Trayner.

"What are you doing here? And why are you dressed like that?" Diane approached, leaving Ellen feeling pinned to the wall. A wave of embarrassed guilt swept over her.

"Hello, Diane. I didn't expect to see you here tonight."

"Ellen, what's going on?" The expression that crossed the other woman's face only made Ellen more anxious. There was no way to answer her question.

"I can't explain right now. I'm afraid it's much too complicated."

But Diane wasn't even listening. "This is all wrong," she said. "Why are you dressed like that? You came in with the masses, didn't you?"

Ellen cursed Diane's intuition, but tried to brave it out. "I can't talk to you right now, Diane. We'll have to get together later and I'll—"

"You're some kind of a spy, aren't you? Who are you working for? Oh what a fool I've been. You said you were from Pittsburgh, didn't you? You're one of them. Damn it. And I thought you were a friend."

The anger in her voice and in her face made Ellen feel worse than the threat of exposure. And Diane's words were carrying across the aisle to the men who guarded the door. Her only chance to penetrate their defense was evaporating before her eyes.

"You don't understand. Please, you've got to give me a chance. . . ."

But there was no chance. Before they could say another word, a mighty roar erupted from the hall as the crowd outside surged through the doors and into the auditorium. They shouted angry and defiant curses, waving clenched fists, as they filled the aisles and spilled down towards the stage.

The commissioners rose to their feet and backed away towards the curtains as the mob broke against the stage like a crashing wave.

Ellen saw Diane only briefly before the two of them were shoved aside, then carried off in opposite directions by the human tide.

She cursed as the hearing dissolved into a chaos more overwhelming than anything the elites had produced the night before. . . .

THREE

A warm breeze rustled the leaves of a ginkgo tree and brushed John Patterson's cheeks as he watched the moon rise above low hills to the east. Overhead, the sky was full of the bright, unblinking stars of power satellites, or-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

bital factories, and the other crowded machinery of the night. Secomp flashed brief icons across his field of view as he scanned the heavens to identify those that it could. The real stars, on the other hand, went unnoticed.

He lay on the side of a grassy hill in one of the parklike spaces around a cluster village. Around sunset, a robocop had come by and started asking him for identification, but Secomp had sent it on its way. After dark, he entered a community center and ordered himself some supper, approved with a little help from the battle computer. Now he relaxed while his overfilled stomach ached pleasantly.

"Inertial sensors indicate you have been motionless for more than fifteen minutes," Secomp announced in John's right ear. "Time for a short history review."

He moaned, but it did no good. Secomp was designed for use by draftees with little formal education. Idle time had to be put to a useful purpose, its designers had decided, and what better purpose than education? John knew that it would do no good to ignore Secomp. If he didn't answer, it would only nag him for the rest of the night.

"August 12, 2037. Explain the significance of the date."

"The collapse of the petroleum economy," John replied. He knew his lessons well—at least the history lessons. Math and science were tougher, mainly because he lacked the tools—a keyboard or pencil and paper—to practice the problem-solving they required. "The crash of the New York, London, and Tokyo stock exchanges, the fall of the banking system, and the beginning of the Third Mideast War."

"Who was Eric Porter?"

"The last president of the United States."

"Vergilio Gomez Portillo?"

"The last secretary general of the United Nations."

"When did they die?"

"2151—the first day of the Third World War. They were killed when their plane was shot down by the Kenyans over Cairo."

"Why are we fighting this war?"

"What war?" John shot back. He knew it was a trick question—of sorts. Nobody had ever been able to explain to Secomp that the war it was designed to fight had ended nearly a hundred years ago. It went on as if time had stood still.

"The Unification War. Begun in 2165 by survivors of World War Three. Adversaries include the East American Federation, the Sub-Sahara Alliance, India, and Pacifica. Last major battle recorded was the Mexican Incursion, August 2168, Pacifican and East American forces clashed following a landing by spacemobile forces west of Mexico City. Casualties were light for the first two days, but—"

"Cancel lesson," John ordered abruptly. "Someone's coming."

"Noted and scanned. They are civilians. Unarmed. No threat."

"I'll decide that for myself," John said as he lifted himself from the grass and headed for the bushes. He watched from his concealment and a few minutes later, a handful of women hurried by. They were followed quickly by a larger group of mixed gender. Then a steady stream of people began to flow past

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

him.

His curiosity aroused, John circled around, came out of the brush, and headed upstream.

A short while later he reached the source—a great hall made of stone and surrounded by manicured gardens, landscaped yards, and date palms. Knots of men still clustered around the building, but judging by the way the grass had been trampled and the frantic robocops, John was sure there had been many more here earlier.

Whatever had happened, he'd missed it. He wondered what the trouble had been—but not enough to try and enter the building. He sat a while on a stone wall and watched, hoping that no one would pay him any notice.

Before long, someone caught his eye. At first, the woman seemed unremarkable. She came out of the building, skipped down the steps to the courtyard, and walked quickly and boldly past the stragglers. What drew John's attention was the way the robocops approached her, then halted and drew back. As far as he knew, he was the only one around here who could do that trick.

She was wearing sandals and a tight dress that left no room to stash a secomp of her own, so it had to be some other kind of wizardry. John decided that he wanted to know what kind.

He gave her a short lead, then he took off in close pursuit.

The robocops were only a momentary nuisance that Ellen overcame quickly. After all, they were programmed to allow Intervenors free passage wherever they wished to go. It took only the correct password and they ignored her as she headed off towards the city center.

Ellen didn't mind the walk. When she first returned to Earth after five years on Mars, she had walked regularly to rebuild her muscle-tone and acclimate herself to the higher gravity. It was only a kilometer to the courthouse, and besides that, the exercise gave her a chance to think.

The near-riot hadn't resulted in any serious injuries—just bruises and bumps and injured pride. But that was only because the masses had no sticks, signs, or other materials that could be used as weapons. They came equipped with nothing but their voices and their anger.

But Ellen knew there was more going on than just the resentment of thousands of village dwellers afraid they were going to be robbed of their destiny. The demonstration had been arranged by the same people who had coordinated the testimony at the hearing—Eklin and Farr, to begin with, and others so far unseen, to be sure.

Ellen was frustrated because all that did was muddy the waters—and they were unclear enough as it was.

What an awful problem to give to an Intervenor her first time in the field!

It was easy back in the classroom where she learned the principles of Human Science. You could identify the trends and patterns of events almost without effort once you knew the rules. But in the classroom, you were dealing with history, where events were whole and complete.

Trying to pick the elements out of emerging reality was a different game—and one she had to master if she wanted to be successful as an Inter-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

venor.

The elites had every reason to oppose the arcology. It threatened the status quo that had given them their status for half a century or more. But that was no reason to deny the masses their chance to step up from the minimal living standards they maintained in the cluster villages.

On the other hand, the arcology was not the solution to the problems the masses faced. They lived lives that were centered on their villages, tied together by the compnet, but cut off from any larger culture or society. That was the source of the volatility that led to the evening's demonstration.

Ellen tried to apply the lessons she had learned in three years of Intervenor training. Human Science was not as exact as the physical sciences, but it was every bit as rigorous in its critique and analysis of observations.

And applying it to the real world was every bit as difficult. . . .

By the time Ellen reached Youngstown center, she still hadn't worked things out. But that was the reason she was headed downtown.

The robocops at the security perimeter barely had time to challenge her before she barked out her clearance command. "Emergency Override Archimedes. Ellen Brindamour. Intervenor 49122."

They rolled back into their maintenance shack and she marched on through.

She passed by the Italian Renaissance-style marble structure of the Butler Art Institute, the Tudor-Gothic building that housed the Youngstown College, and the limestone library—monuments to a past when the city was the center of civic life for a much larger community than a handful of technicians and professionals who served as its custodians today.

A few blocks on she walked around the tall monument in the Public Square and then on to the courthouse.

The doors were locked, but they opened at her command. That power was still a bit of a surprise to her—she had used it only a few times since completing her training.

Judge Arden Martell was already in her chambers. Ellen had called ahead from Stambaugh Auditorium and asked for the meeting. After the two hearings, it was time to talk. And Ellen had been taught not to waste time.

"I was waiting to hear from you when you called," the judge said when Ellen entered the room. "Now you understand why I asked for an Intervenor."

"The problem I face is that I can only deal with the law," Judge Martell said as she poured Ellen a cup of coffee. "The commission can make its decision based on the hearings. Foster Eklin can appeal if it he doesn't like it. Or the Youngstown Taxpayers Association. Or whoever. I can rule on the technical aspects of the case and the arguments they present and try to be just. But I can't overrule a bad call by the commission. I'm afraid I'm limited by the laws of the state of Ohio and the county of Mahoning. You, on the other hand, are not."

The office was rich with furnishings—wooden tables and leather chairs, brass lamps, bookcases filled with pa-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

perbound books. It smelled ancient, slightly musty. Ellen found herself swallowed up in its scholarly atmosphere, forgetting for a moment that there was a real world beyond its walls. She sipped her coffee as the judge continued.

"You saw how the masses acted tonight. Even if you're correct and they were incited to that demonstration—and I have no reason to doubt you—the fact still remains that they are capable of an uprising that would destroy this county."

"I'm sure of that," Ellen said. "The indications are all there. They have no roots. No sense of connection to a larger community. In short, they have nothing to lose."

"And if you think they're bad, you should see the retros."

"I've heard about them, but they haven't put in an appearance at the hearings."

Martell laughed. "That would be a sight. They aren't likely to. Unlike the masses, they have the means to work considerable violence. We are fortunate that they remain in their apartment towers. For the most part, they're a world unto themselves. They have their militias and their leaders to keep tight control on them—most of the time. Occasionally, someone will cross the line. Last year there were several hostage-taking incidents over water supply rights, but I resolved that without any serious trouble.

"In any case, this decision would affect them too. And if they don't like the way the commission goes, they aren't likely to resort to legal appeals. Their kind likes direct action."

Ellen nodded. "So you decided that direct action was needed to head things off."

"Exactly. As an Intervenor, you can do things that I can't. I don't have the legal authority to direct the commission. I don't have the moral power to restrain the masses or the retros. I barely have influence with the taxpayers—and then only if they agree with me. You have all of that—and the power to back it up."

"Presumably," Ellen said, her insides twisting themselves into knots. She tapped on the rim of the coffee cup with one long slender finger, the only outward sign of her inner turmoil. "What is it you want me to do?"

"I want you to come up with a solution that's in everyone's interest."

"And impose it on them whether they like it or not?"

"Isn't that what an Intervenor is supposed to do?"

"Intervenors are supposed to do a lot of things. Mostly, what they're supposed to do is no more than is absolutely necessary. We aren't social engineers. We aren't dictators. We're more like mechanics or repairmen. When the normal social or political processes get off track, it's up to us to set them straight. And we have to use as little force as possible to do that—or else we end up being a part of the problem instead of a part of the solution. But the Unification government puts limits on us just like the state puts limits on you."

"I understand all that," the judge said. "I just want you to do what's best for the masses. Without hurting the taxpayers if you can."

"And the retros?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"They've been a problem for decades. I'm not sure what to do about them."

"Would you want them inside the arcology?"

Martell shuddered. "I don't know. I don't think so. Certainly not without disarming them. You lived in Pittsburgh. What did they do with their retros when they built the arc?"

"Pittsburgh is a special case. The city didn't have that problem in the first place. But it's got a different history than Youngstown. When the steel industry collapsed back in the Twentieth Century, Pittsburgh replaced it with science and research. Your city didn't have that advantage."

"And other arcologies?"

"They have other problems. There are underclasses in most of them. Not violent, but exploitative. The old vices are hard to root out."

"That's why they still have judges."

"And Intervenors. Any suggestions on what to do for the people of Mahoning County? Assuming I veto the arcology?"

"Is that what you plan to do?"

"It isn't in anyone's particular interests as far as I can see. What the masses need is a new compnet more than anything. Each new generation is being taught to maintain the isolation that their parents lived in. They need something to break down the walls that keep them apart."

"It sounds like a lot of work. Who's going to do it?"

"I don't know," Ellen said with a sigh. She ached with the desire to tell the judge that she couldn't know. That this was her first field assignment. That she didn't have the experience to be sure that her ideas would work or could even be implemented. She wanted someone else to share the burden of that awful responsibility with her. But she knew she couldn't do that. Being an Intervenor was a solitary duty and the burden could not be divided.

She rubbed her face with her hands. "I just don't know enough yet. . . ."

FOUR

Getting past the robocops was no more difficult for John Patterson than it had been for the woman he was following. The real challenge was keeping up with her as she maintained her quick walking pace down the broad avenue of the city.

John lingered far enough back to avoid being seen, but she was moving so quickly that he was worried he might lose her. And sure enough, he did, not long after she passed by a towering stone shaft in the middle of a wide square.

Secomp scanned the buildings around them, but was no help. They were old structures made of stone and brick, and Secomp's sensors could not penetrate their interiors. And the internal security systems were a couple of generations beyond Secomp's abilities, leaving it incapable of infiltrating them and using them to find John's quarry.

So he sat down on a bench in the shadow of the largest of the stone buildings—one with wide steps and a row of high columns across the front. He set Secomp on security alert, partly to keep watch for robocops, citizens, and the woman, and partly to keep it from lapsing into another lesson on history—or

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

something worse.

He waited a long time, long enough to doze off into a restless sleep, interrupted whenever his head dropped.

"Perimeter alert," Secomp announced softly in his left ear. "Female. Fifty kilos. Bearing 015 true. Range 30 meters."

John perked up, fully awake. His neck ached, but otherwise he was ready to go. The woman headed away from him, north, up the street towards the square. He followed again.

This time she didn't move so fast. He came closer, keeping to the darker part of the sidewalk near the building. Suddenly she stopped.

"If you're following me for a reason, I wish you'd tell me. It makes me nervous to hear you back there."

John froze. He thought he'd been fairly stealthy. Apparently not. He stepped forward reluctantly. Up close like this, John realized the woman had a pretty face. She was in her mid-thirties, which put her more than ten years beyond his age, and she wore the simple clothes of the village dwellers.

"Hello. I ain't trying to make you nervous," he said. "I just wanted to know how you got past the robocops."

Her eyes widened. "I'd like to know the same thing about you, now that you mention it."

He smiled sheepishly and introduced himself. She said her name was Ellen and suggested they walk to the monument and sit down.

"I'll tell you my secret if you'll tell me yours," she said. He agreed.

"Secomp," he explained, pointing to the modules on his thighs and back and belt. "It's dispersed like that to maintain operations if I get hit by enemy fire."

"Enemy fire?"

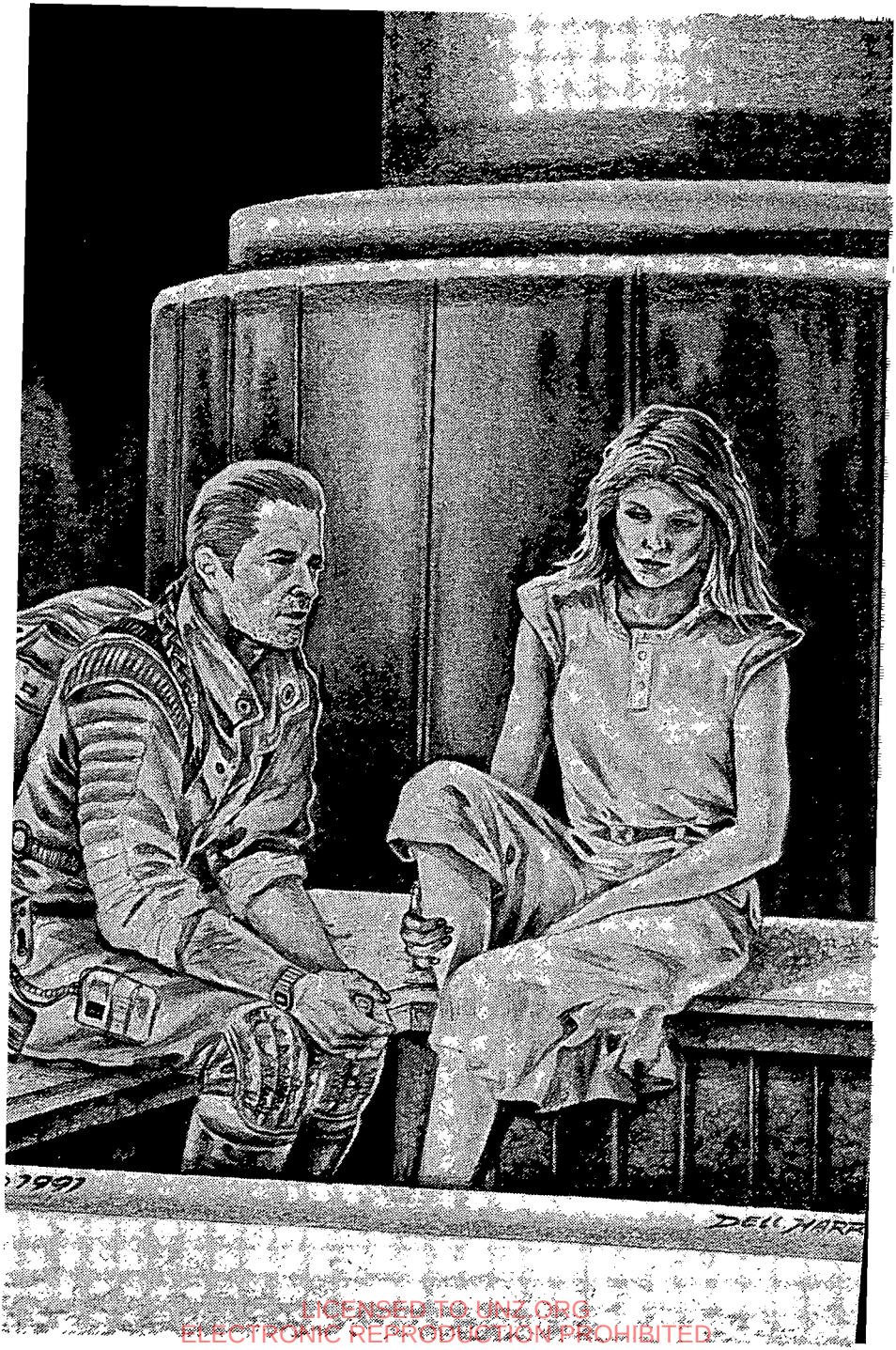
"Secomp's a battle computer. It belonged to my great-grandfather. He was a soldier in the Unification War. My family's handed it down from father to son ever since. We're from West Virginia, up in the hills. We got a little organic food farm—livestock, gardens, a cash crop or two. It ain't like the city here at all. We got other computers too, but they ain't hooked up to others like they are around here. And aircars. My daddy keeps 'em flying. He was a mechanic when he came down from the hills. He didn't like it much here, so he went back. Brought Ma with him. Things ain't changed much up there like they have down here. Though I can't see as how they've changed much down here from what my daddy says about them."

"You're right about that," Ellen said. "This place does seem to have a case of arrested development."

"Anyway, that's my story. I came down to hike around. Secomp helps keep me out of trouble. Gets me in to eat when I'm hungry. That kind of thing. I guess when I get tired of it I'll go home. Maybe find me a wife first, though. At least, that's kind of what I was thinking. You wouldn't be interested in anything like that, would you?"

Ellen blushed, then smiled. She patted his hand gently. "I'm afraid not, John. I think I'm a little bit older than what you're looking for. But I wish you luck. And I think if you'll avoid following women around in the dark and try meeting them in the daylight, you shouldn't have any trouble finding a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wife—eventually. Those things take time, though. You've got to be patient."

John swallowed hard and tried not to feel embarrassed. He changed the subject.

"Now what's your story? How'd you get past the robocops? I can see you ain't got a secomp of your own."

"That's right," Ellen said. "I've got a different kind of secret. Do you know what an Intervenor is?"

Now it was John's turn to open his eyes wide. "I sure do, ma'am. Except I thought they were . . . I don't know . . . kind of bigger. Not that you ain't . . . but you're just kind of a slight little thing. I mean—"

"I know what you mean," she said. "The first Intervenor I ever met looked and sounded a lot more like what you're talking about. But we come in all shapes and sizes. It's what's up here that makes an Intervenor." She tapped her forehead.

"I guess so. Is it true you can order people to do whatever you want?"

"More or less. But they don't always do it. You have to be careful that way. You can only order them to do things that they'd do anyway."

"I guess that makes sense," John said. He felt sweat running down his face and realized that he was more nervous than he had been before he learned the truth about Ellen. "I'm not in any kind of trouble, am I? I mean, ain't you supposed to be some kind of secret police or something?"

"Secret, yes. Police, no. And I'm afraid my masquerade here has just about played itself out. Tomorrow, I'm going to have to come out in public. As soon as I get home and change out of these awful clothes."

"Home?"

"I come from Pittsburgh. Down your way, kind of."

"Kind of. How are you going to get there? It's an awful long walk."

"My aircar should be over there somewhere. I called for it a while ago. The autopilot would have put it down along Federal Street. Yes, there it is. Would you like to see it?"

John jumped up eagerly and followed Ellen as she walked down the row of cars along the avenue. It was a new car, newer than any his daddy had ever flown in from outside the valley. He felt the smooth seats and savored the sweet smell of a new vehicle.

"Do you like it?"

"It's a darling, ma'am. A real darling."

"Can I give you a ride?"

"Ah gee. I ain't got anyplace to go right now. Otherwise I'd take you up on it."

"How about a spin around the city?"

"Really?"

"Really."

They climbed in and John gulped as his stomach stayed behind while they shot straight up. The car dipped and banked abruptly, the pattern of streetlights and buildings tilting precariously below them.

"I used to be a pilot up on Mars," Ellen said. "This is pretty easy compared to that."

"I wondered where you learned to fly like that."

They circled the city twice, John pressing his nose against the window as he quickly overcame his fear and be-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

came fascinated with the view.

"What are you doing here in Youngstown?" John asked for a while.

"I came to help them make a decision," she said. She briefly described the dispute over the arcology.

"I can't say as I'd be in favor of a place like that," John said. "But it's probably a far sight better than living in those little boxes where they put people instead. Or those high-rise towers along the river. What are you going to do about it?"

"I don't know yet," Ellen said with a sigh. "I'm still not sure what the people around here really need—instead of what they think they need."

"That's hard enough to decide for yourself, let alone someone else."

Ellen was about to agree when a soft electronic chirping issued from the dashboard.

"I wonder who's calling me at this time of night," she said as she slapped a control beside the wheel. The car leveled off as the caller identified herself.

"Ellen, this is Judge Martell. I'm afraid something terrible has happened."

"What is it?" Ellen asked.

"The retros have left the reservation. They went up into Mill Creek Park and kidnapped Diane Trayner. They say they won't let her go unless we cancel the arcology."

FIVE

"I don't believe it," Ellen said. "Don't they have any control over the people in this county?"

But she knew the answer before she voiced the question.

"You got a problem?" asked John.

"The retros. You heard what the judge said."

"Who are they?"

"They live in the high-rise towers along the river."

"Oh—those fellows. I guess they would be kind of a problem," John said. He told Ellen about his encounter with them his first night in Youngstown. "Where did they come from? My history's a little bit rusty. Secomp's been my teacher, and it stopped remembering things back before the end of the war."

"I'm not sure where to begin," Ellen said as she flipped the aircar over and headed west. John moaned briefly, then fell silent as she steadied up on course.

"When the Petro Collapse brought the world economy crashing down, it reversed a hundred years of social trends overnight. People who had dispersed to suburbs and exurban retreats returned to the core cities. Mass transit, high-density housing, maglev tubes to carry materials and products, commercial and industrial centralization—they changed everything overnight.

"The core cities threw up the infrastructure to support the new social order, but they did it quickly and without adequate planning. You had apartment towers spring up along the commuter rail lines—like down by the river. They filled them with computerized security—external stuff for the affluent elites who wanted to defend their new castles from the masses outside and internal stuff to control the masses inside.

"And then you had the Gravitron Revolution."

She caught her breath and turned her attention to the computer, sending it on an errand in the Mahoning County secu-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rity records.

"And the retros were the ones left in the apartment towers?" John asked.

"Exactly. They were the unlucky few who escaped assimilation into the new society—veterans and refugees of the Unification War to begin with. Some of the war's victims, too. As well as the people displaced by the change in technologies and the marginal types who couldn't cope with technology in general. And after a time, they included their children and their grandchildren and their great-grandchildren, all jammed into the same space in the same buildings."

"Isolation ain't so bad," John said. "We're pretty cut off back home and it hasn't seemed to hurt us all that much. Course, Ma's always been after me to read the books she downloads and do my schoolwork. And my daddy and I fly over to Morgantown every now and then to lay in stores."

Ellen reflected on John's argument briefly, then attended to the computer as it asked for authorization to continue its task.

"This is a different kind of isolation, John," she said. "Instead of stepping out and up into a bold new future like the villagers, the apartment dwellers were abandoned to retrograde development. They lack even the minimal contact with a larger society that the compnet provides to the cluster villages. They live in a culture of default settings, in the absence of values and goals and standards and norms.

"And without any real stake in the new society, their leaders—the war veterans and their descendants—took advantage of their isolation. When the population was shipped out into the villages, the old urban centers shrank in size and span of control. That shrinkage led to stricter controls on those who remained under its influence, but it only aggravated things for the retros, who lived in a vacuum outside the new social order.

"The tighter the social control gets, the faster it drops off as you go out from the center. It's even worse around the big arcologies like New York and London. This is child's play compared to life around those jungles."

The computer interrupted her at that point, announcing that it had found what she wanted to know.

Security monitors and robocops had taken the place of human agents decades ago, but the equipment remained in place and recorded faithfully everything that transpired in Mahoning County. They had dutifully tracked the retro war party as it left the towers, crossed the river, followed the old roadbed of a long-abandoned interstate highway to Mill Creek Park, and invaded the home of Diane Trayner. And with equal faith to their commands, they had recorded the return trip—right down to the building where she was now being held.

Ellen ordered the car to a higher altitude, then directed it towards the river and the apartment tower in question. A few moments later, it slowed to a stop and hovered a hundred meters above the retro stronghold.

"Are we going after her?" John Patterson asked after keeping silent during the short flight.

Ellen was suddenly aware of him again. What was she to do with the young man? She couldn't spare the time

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to put him down somewhere and she couldn't leave him in the car while she went after Diane.

"I am," she said. "I don't know what to do with you."

"Take me with you. If you're going into those apartment towers, you'll need me and Secomp. Believe me."

"What good are a hundred-year-old battle computer and a twenty-year-old kid going to do against a building full of retro militiamen?"

John looked stung by her sharp remark, and she wished she could take the words back. But he recovered quickly.

"Secomp is good enough to get past the security in those buildings. They're at least as old as it is. It was built for this kind of thing, you know—urban warfare and close combat."

"Are you armed?"

"Well . . ."

"Honestly, John. I'm not a paracop and I won't report you."

"I've got Grandpa's rail gun in my pack. It'll only take a minute to put it together. I can't promise you it'll still pick a possum out of a tree at a thousand meters, but it's good enough for inside."

Ellen drew a deep breath, then sighed. "All right, then. Let's go."

She used the computer in her aircar to get through the airspace controls over the apartment tower and land on the building undetected. A few minutes later, the two of them stepped out into the darkness in the center of the rooftop. A warm breeze whipped across the surface, stinging Ellen's face with windblown grit.

"This way," John said, taking her by the hand and leading her towards a corner where a small shack covered what had to be one of the access ports to the rooftop. A moment later they were inside.

The apartment tower resembled a dark, twisted copy of the arcology where Ellen had grown up.

The top floors were full of clanking, whirring machinery—ventilators, air conditioners, powerlift engines, plumbing and water supplies, pumps, relays, and sundry other equipment. Below this was the uppermost level of habitation.

The corridors were poorly lighted. The air was stagnant and thick with human smells. And the apartments and hallways were crowded with people—stunted and impoverished copies of the masses who lived in comparative luxury outside.

They had the look of squatters and recluses. Sections of the floor were blocked off by improvised barricades—private strongholds within the retro bastion. Ellen recoiled at the sight of young families—children with children of their own, eyes staring wide at the intruders who stalked through their halls.

John took the lead, his lean frame and braided ponytail a reassuring sight a few meters ahead of her in the steamy gloom. Before entering the building, he'd removed a plastic patch the size of her hand from a compartment at his belt.

"Put this on your shoulder," he'd told her. "It's a remote commlink. We can use it to keep in touch. Just talk softly and everything you say gets relayed to me through Secomp."

"How are we going to get down to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

where they're holding Diane?" she asked.

"The powerlifts are out of the question—they've got control over those and there's no way I can get us past the men who guard the exits. We'll have to use the stairs. Maybe the service shafts if they're being watched. I've got some ideas about how to avoid that, though."

The first leg of their trek ended at a stairwell near the center of the building. They paused for a long time while John and Secomp worked some kind of diversion.

"There's security teams in the stairs. If we want to use them, we've got to get rid of them first. I just had Secomp fake an alert message to send them down to the ground floor. Give them a few minutes and the place should be clear."

Ellen's heart pounded in her chest. She couldn't help feeling that the deeper they got into the apartment tower, the slimmer the chances became of ever getting out.

They went through the door, John leading the way. He had them moving in bounds, first he'd descend to the next landing, ensure that it was safe, then she'd follow. They went down fifteen levels that way before John grabbed her by the arm and ducked through a doorway and into the inhabited part of the building again.

"They caught on to the diversion," he said. "They'll be back up here in a minute."

"Great. Now what do we do?"

"There's another stairwell on the other side of the building we should be able to use. I'm going to have Secomp send them upstairs. By the time we get there, it should be clear."

"I hope so."

The hallways were cleaner and better lighted down here, though they still stank of sweat, urine, and worse. The doors were all closed and the corridors empty, and that gave Ellen a bad feeling.

In Pittsburgh, the corridors of the arcology were always thick with traffic. People socialized out there, conducted business, bought things from hall vendors, and lived their lives outside the confines of their cramped apartments. It couldn't be that different inside here—unless there was a reason for everyone to be inside.

She had a frightening vision of an arcology dominated by the militant gangsters who ruled this building. It sent a shiver up her spine.

John headed on down the passage, leaving Ellen at a junction between two side corridors.

"It sounds all quiet up ahead," he said. "I'm going to look into the stairwell."

Ellen tensed up as she watched him slide the door open and stick his head inside. Then he stepped through and disappeared from sight.

That was when the militiamen appeared.

There were five of them in the side corridor to the right. They were big men, wrapped in plastic shielding and toting clubs. These were the tools of social control for the retro leaders—enforcing their rule with brutal terror.

Then another party appeared in the opposite hallway, flanking Ellen on two sides.

She felt raw panic grip her soul, root-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing her feet to the floor at first, then spurring her to sudden flight. She bolted down the hall towards the door to the stairwell where she'd last seen John Patterson. She wanted to call to him on the commlink, but her throat was seized with fear that she would be discovered if she spoke.

It almost felt like she was back on Mars, running in slow motion, leaping in low arcs towards her goal. The walls and ceiling felt like they were closing in on her and the door seemed to be getting farther away, not closer.

Then she was upon it, clawing at it with her fingertips, sliding it open —only to confront a third team of militia men, bigger, uglier, and more frightening than the first two.

She swallowed hard, then froze, gasping to recover her breath as their leader let out a loud laugh and grinned.

SIX

The retro leader, Carlos Prin, held court in a chamber decked out in an eclectic mix of luxury and cheap improvisation. He sat on an overstuffed sofa upholstered in crushed velvet with ornately carved arms and feet. But his subordinates filled old plastic chairs, some with bent or broken legs.

The walls were decorated with prints of beach surf and mountain meadows in elaborate gilt frames. A fireplace dominated one wall, but instead of wood, there were half-burned books on the grate.

Ellen took little note of her surroundings, however. She was more concerned with the tangled plotting that had brought her here. In its own twisted way, kidnapping someone to protest the building of the arcology made sense. It was the retro way of exercising political power—just as the taxpayers in Youngstown had testified against the project at the hearing, and the masses had demonstrated at Stambaugh Auditorium.

But why Diane Trayner?

She hoped she would have a chance to ask Prin that question.

First, however, she had to wait at the rear of the chamber, her hands tied behind her back with a plastic binder, while Prin conducted his business.

Her wrists hurt, her arms burned, and the dull ache of fear gripped her gut. She was worried about John Patterson. What had happened to him?

That question was answered first.

"Ellen, are you all right?"

The voice was little more than a whisper in her ear, but she recognized John's twang. "Mmm-hnnnh," she hummed, afraid to give herself away to her guards.

"Can you talk?"

"Uh-uh," she intoned.

"They've got you. Now I've found you. Secomp's got you on their security monitors. They ain't going to hurt you, are they?"

"Hmmmmm?"

"You don't know. Ellen, can't I do anything to help you? I know where they've got you. I could probably get in close enough to take you out of there."

"Uh-uh," she buzzed as loudly as she could. This wasn't satisfactory at all, she realized. She had to take a chance at more definitive communication. "If I could only get help from the paracops," she murmured softly, eyeing her guards sideways in fear.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

There was no reaction from the guards, but John spoke up quickly. "Paracops? How can I get them? Oh Ellen, there's no way. What can I do?"

She was about to make a suggestion when she was interrupted by the guard. Carlos Prin was ready for her audience.

"You don't look like a taxpayer," he said. "You're dressed like a villager. But you flew in on an aircar and got through fifteen floors of my defenses. What kind of technician can do that?"

"A curious one," she replied.

Prin tipped his head back in mocking surprise. "So you talk back. That's a sign of spirit. Curious about what?"

"About why someone like you would kidnap someone like Diane Trayner."

"That's obvious, isn't it? I don't want them to build the arc."

"Why not? I would think a man like you could take good advantage of a bigger building."

He laughed. Ellen judged his age at about thirty, but it was hard to tell. His face was covered with rough scars and a ragged beard. His hair was jet black and his skin dark and red.

"Why should we let them build it? It would mean the end of the towers, the end of the militias."

"And the end of your power, right?"

"You could say that. I'm not sure how well I'd do if they transplanted me. Here, I'm secure. I know what life is all about. There, who knows? Change is only good if you've got nothing to lose. I have everything to lose and nothing to gain. Let them build an arc somewhere else."

"Then why take Diane Trayner? She's on your side. She's against the arc too."

"Is she? What irony. In any case, it makes little difference. And now I have two hostages."

Ellen narrowed her eyes. Prin wasn't good at telling lies. In his position, it probably wasn't necessary. This one showed through.

"Not good enough, Carlos," she said. "You traveled far and singled out her home for attack. You knew who she was before you went in and you picked her out on purpose. There's more to this than you are willing to admit."

Prin looked suddenly disturbed. He didn't have a quick response.

John Patterson's voice whispered in Ellen's ear. "Secomp found your friend," he said. "She's downstairs from where you are now. And we found something else too. There's some guy in a suit in the room next to you. He doesn't look like he fits in with the others."

Ellen's eyes widened as she struggled to hide her feelings.

"Nothing is as it seems around here, is it Carlos?" she asked, challenging Prin before he could recover himself. "I look like a bored taxpayer looking for thrills, but I'm not. You look like you're in charge, but someone else is really making the calls for you. Each of us the front for greater forces. You show your cards and I'll show mine. Otherwise stop playing games—there's no point to it."

Prin narrowed his face as he tried to hide his anger. "You make pretty bold talk, lady. Just who are you a front for?"

"I am your worst nightmare—an Intervenor with the power to close down you and your operation without a sec-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ond thought. You are a bully and a terrorist, but you are not a politician. Let me talk to one who is."

The retro jumped to his feet. "You lie. You're nothing but an engineer from Pittsburgh."

"Is that what Foster Eklin told you?"

Prin charged towards her, but was stopped before he got half way by a voice from the side of the chamber.

"That's enough, Carlos. I'll handle this one."

Eklin smiled as he entered the room.

He had the guards cut Ellen's bonds and she rubbed the red crease where they'd cut into her wrists. Then he had her escorted into the side room where he'd been monitoring the conversation. He offered her a cup of coffee and a seat.

John Patterson spoke up again while she was waiting for Eklin to finish a sharply worded discussion with Prin. The retro didn't take kindly to being shown up in front of his own militia commanders.

"Ellen, how do I get in touch with the paracops?"

"If you can get back to the aircar, speak to the computer. It'll take care of the rest."

"But that's back up on the roof."

"I know," she whispered, her heart sinking as she mouthed the words.

Eklin appeared and cut off further discussion.

"I underestimated you, Ms. Brindamour," he said. "I thought Diane was my biggest adversary. I guess I was wrong."

"Your plotting is more perverse than I had imagined, Eklin. Kidnapping Diane made sense for you, if not for the retros. But why did you have them demand a stop to the arc? I would have expected you to insist on just the opposite."

"The plan was to increase pressure on the commission to approve the project. They are unlikely to give in to the demands of the retros."

Ellen shook her head. Of course, now it fit together.

"What are you going to do now that your plot's been revealed?"

"Revealed? To whom? You're here alone and until this moment you didn't know I was a part of it. Correct? I thought so. As you said, if I had been, the retros would have insisted that the arc go up."

Eklin rose and stepped to the door.

"No, the plan is still on track. Your presence here complicates things. The original outline called for only one hostage and as far as I can see only one is required now. No one needs to know you were ever involved. Carlos can take care of that. A nasty and unfortunate accident. A fall from a great height. Outside the building—or perhaps down a service shaft. Killed in the line of duty—assuming that you weren't lying about being an Intervenor."

"You must stand to gain a great deal from this project if you're willing to kill an Intervenor," Ellen said, straining her voice to hide the fear that was building up inside of her.

"More than you can imagine, my dear. Along with a great many others. We are not about to let you interfere—or intervene, to be more precise."

He stepped back into the main cham-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ber and Ellen heard him talking to Prin. Her guards grabbed her and pulled her into the room.

"We've had enough of this one, Carlos," Eklin said. "I suggest that your men take her to the roof and show her the way to the ground."

Prin grinned at that and nodded. The militia men replaced the plastic binder on her wrists and yanked her along with them.

They marched her down a long corridor to the powerlift, pressed the button, and waited for a car. Ellen felt the blood drain from her face and hands. She couldn't believe this was it. She wanted to scream, to throw herself at her guards, to bite and claw and scratch. But something held her back—fear or some other restraining emotion.

Where was John Patterson? Surely he knew what was happening to her. He said he was nearby. Could he reach her before the elevator arrived?

No—the doors slid open and Ellen felt her heart skip a beat. She hesitated as her guards pressed her towards the door. They shoved her hard, twisting her arms and making the plastic binder cut into her skin. She yelped, then bit back her anger.

The doors slid shut and Ellen drew a quick breath. There could be no rescue from John Patterson now. If he was down on the level with Prin and Eklin, the only way he could race the elevator to the top of the building would be to risk capture himself. But if he was already on the roof. . . .

Had he been able to get there? How much time had elapsed? Five minutes? More? Less?

She half expected to see him when they emerged from the elevator on the upper floor of the tower. She was disappointed when she did not. Her guards pulled her after them as they hustled along the hallway to the roof access. They climbed the stairs through the equipment spaces to the door that led onto the roof. Then they were through, out into the warm night air, underneath a thousand stars.

John Patterson was nowhere to be seen. Her aircar was silhouetted against the glow of the Youngstown city lights. Secomp was clever, but it couldn't make John invisible.

So this was the end. She hadn't been able to complete a simple field assignment without getting herself killed. What a disgrace. She looked up, trying to get in one last look at the sky, searching for the red beacon of Mars, where she'd spent such an important part of her life.

She didn't find Mars, but she did see another red star that burned steadily and unblinking directly overhead. As she watched, it grew brighter and bigger.

Suddenly it was joined by a half dozen others, which transformed themselves into the running lights of military-style aircars. They fell from the sky, swooping down in formation to surround the apartment tower.

Ellen cheered aloud as they touched down on the rooftop, spilling armor-clad paracops by the dozen who leveled weapons at her captors and demanded that they surrender.

"Ellen, are you all right?" asked John Patterson, his whisper elevated to a ragged panicky shout.

"Yes, John," she said. "I'm fine."

"I had Secomp relay a message to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

your aircar through the building security system. It took some doing, but I guess it worked, didn't it?"

"Yes, it worked fine. Thank you very much."

A paracop cut her bonds and led her back to one of the aircars where a medic spread a painkiller on her cut wrists. Then she sat down and screamed into her hands.

SEVEN

The paracops spent the rest of the night cleaning the retro militia out of the building. Ellen paced between the military aircars that crowded the rooftop, working off nervous tension and a burning anger that only grew worse as the night turned to dawn.

The cops brought the men out in dribs and drabs, two or three at a time, bound with plastic, doped up on stun drugs, led on a leash into waiting vans that lifted and swooped off into the darkness. Ellen followed the running lights as they dwindled into the distance, cursing them all the way.

A yellow glow hung all around the high platform by the time the cops got to the heart of the retro empire. First they brought up Carlos Prin, then Foster Eklin. She glared at the two men, somehow dissatisfied with the pathetic figures they cut, hog-tied and confused by medication. She had hoped for something more humiliating.

Then a pair of paracops emerged from the accessway with the lean, gangling figure of John Patterson between them. They escorted him to Ellen and presented him to her.

"This one says he knows you, Ms. Brindamour," the senior cop said.

"Yes, he does," she replied. "Have you done anything to him?"

"Well . . . he didn't resist, but we figured we should stun him anyway."

"John, are you all right?"

"I guess so, ma'am," he said, his tongue struggling around the words. Then he smiled. "I feel pretty good, actually."

"Don't you have anything you can give to counteract that?" she asked.

"In the command car," the cop replied, leading John away with a chuckle.

Finally, as the sun began to paint an orange smear in the east, Diane appeared. She held the arm of one of her rescuers, favoring one leg as she walked.

Ellen felt weak inside—guilty and furious all at once. She wanted to hug the other woman, but the emotions were too strong and too discordant. And words were beyond her at that point.

"Diane . . ."

The lawyer looked at her, her lower lip trembling. "Did you do this?" she asked. "Did you bring them here?"

Ellen nodded.

"Thank you, I guess. Ellen, I still don't understand. Who are you? What have you been doing here in Youngstown?"

"I'm an Intervenor."

Diane's eyes told the whole story. Ellen could see that quick mind putting the pieces together. "Judge Martell. She's behind this, isn't she?"

Ellen nodded.

"Now what are you going to do? Are you here to kill the arc? Isn't that what this is all about?"

"I don't know," Ellen said. "I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

haven't decided yet."

Diane shook her head. "I'm sorry. I thought you were a retro spy—or something else. I was so mad at you. But I should have figured it out before this. I shouldn't have doubted you."

"Don't apologize yet, Diane. I may still give you reason to hate me."

"What's that supposed to mean?"

"Like I said. I haven't made my decision yet."

"But—but there's only one way you can decide."

"No, there isn't." Ellen felt a sudden desire to run, to escape the tangled web of deception and betrayal she had built since arriving in Youngstown three days earlier. "There are a million ways to decide. I just have to pick the right one."

Diane's shoulders sagged and she closed her eyes. Ellen felt the guilt rise in her again. It was more than she could stand. Then the anger towards Eklin and his cohorts followed in its wake. There was still work to be done. It didn't matter that she had been up all night long—she was running on ragged nervous energy.

"I'm sorry, Diane. I have to go. I'll talk to you later—if I can."

Then she rushed off across the rooftop to where her own aircar sat, dwarfed by the heavy machinery around it. A moment later, she was rising into the golden sunlight.

Ellen stopped the car a few hundred meters above Youngstown center, set the controls to maintain station, and ordered the computer to uplink with the master databanks in Pittsburgh. As an Intervenor, she had access to all the information that had ever been recorded about every one of the eleven billion people who lived on the planet. But right now, she was only interested in one.

"Computer, give me all you know about Foster Eklin."

A virtual terminal popped to life in front of her, replacing the aircar control panel. Eklin's life story began to scroll up before her eyes—birth, education, employment record, and all the rest of the important biological data.

He had ties to the civil engineers who wanted to build the arcology, but that was obvious and entirely as advertised. More interesting to Ellen, however, were links to water and tubeline companies. She asked the computer for more information on those links.

"Eklin was involved in a dispute last year between Cleveland and the city of Warren over rights to the Mahoning River waterflow. He represented Cleveland and negotiated an agreement that ceded the water rights to Warren in return for an undisclosed benefit." Warren was only a few klicks to the northwest between here and Cleveland. What could they have traded to the larger city that was worth the water rights?

"What was the benefit?" she asked.

"Its share in the Youngstown arcology. Warren agreed to waive all rights and interests in the project."

"And in return, Eklin is working his butt off to put up a project that will take the water from Warren before it reaches the city."

"That is one potential consequence of the arrangement," the computer said without prompting.

"What have you got on Assembly-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

man Farr?"

The terminal crawled with the politician's biography. Before long his name came up in the same water dispute.

"Stop," she ordered. "Run through the appointment and meeting schedules for Eklin and Farr for the past two months. Show me wherever they overlap."

The computer took only a moment to produce the requested data. The names of two more assemblymen from Cleveland and Pittsburgh—and the head of the regional tubeline department, representatives for two tubeline construction contractors, and a senator from the Ohio region.

"Who would benefit more from the arc than the tubeline people?" she asked rhetorically.

"The arcological construction contractors," the computer replied.

"Any connection with these figures?"

"Researching," the computer said. A list of names appeared—the same politicians, Foster Eklin, and two more senators.

"Computer, record these names as a list of potential suspects on conspiracy charges and check to see if they have been named in conflict-of-interest claims, kickback schemes, or any criminal activity."

"That will take some time," the computer replied. "Access to ongoing criminal investigations must be approved by higher level Intervenors."

"Go ahead anyway," Ellen said. "In the meantime, let's start with the senators and work our way down. Give me the biodata first."

The files were long and full of useless detail. Ellen waded in at first, but before long she found her eyes losing focus and wisps of dreams invading her thoughts. She woke with a start when the phone began to chirp.

"Phone on," she commanded. "Ellen Brindamour here."

"Ellen, what are you up to this morning?" It was Alice Clay, her mentor from Intervenor school.

Ellen felt her skin flush and sweat trickle down her forehead. "I'm in the middle of my first field exercise. Why do you ask?"

"Because you're trying to get into criminal cases that require my authorization for access, that's why. What are you trying to do, have the entire government indicted?"

"But—"

"You know you can't clean up the whole world in one stroke, Ellen. That's not what you're trying to do, is it?"

Ellen remembered her first days in one of Alice's history classes. Her gentle sarcasm could flay you alive if you weren't careful. She followed her mentor's lead.

"No, Alice, I'm not. I guess I just got angry. It's been kind of a bad night for me."

"I should say so. The police report is already in my directory and it isn't pretty. You're getting awfully involved for a simple field exercise."

"I couldn't help it," Ellen said sheepishly.

"You've just got to remember the limits of Intervention and Human Science. The only way to save humanity from itself is one step at a time. And don't forget that there are people down in Youngstown and Mahoning County

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that are depending on you to make a wise, scientific, and focused decision about their future."

"Yes, Alice."

"And have some faith in the rest of us. The police will take care of Foster Eklin. The others will be handled in due course when the time comes. You just worry about your part of the process."

"Yes, Alice."

"And Ellen?"

"Yes?"

"Try to get some sleep. You look terrible."

"I will." Alice broke the connection and Ellen relaxed for the first time since entering the apartment tower with John Patterson.

She flew over the city as the morning sun painted the parks around the cluster villages with soft gold, splashed fire on the towers along the river, and cut sharp shadows along the streets in Youngstown center.

The social tensions of the fragmented community revealed themselves to her in sharp relief. The different castes had been locked in struggle for more than half a century. The careful balance of opposing forces had emerged at the dawn of the Gravitron Revolution. They were there in the physical separations that the different groups had created for themselves.

Human Science made it easier for Ellen to see the dynamics that lay under those separations. The circles and arrows of a science diagram were laid out before her on the ground.

She should have been thinking in those terms all along—instead of becoming emotionally involved in the struggles of the various groups. Of course, she realized, the only way she could see things as they were was to make that passionate connection first.

Unfortunately, all the passion in the world could not overcome the limits that the situation imposed on her.

"What am I going to do?" she asked herself aloud. "What do you people really want?"

It was easy to see what the masses and the elites needed the most: a new compnet, a new social order, a new sense of unity and connectedness to replace the fragmented culture that existed now. Even the retros would benefit from that, she knew.

But Ellen also realized that was a false approach, based on a fallacy: change the mind and everything else would change with it.

It didn't work that way. She knew that in order to change minds, you had to change the material world around them.

And in any case, she did not have the power to reorder society—any more than she had the power to track down every corrupt official between Cleveland and Pittsburgh and have them thrown in jail. Her hands were tied just as tightly as Judge Martell's had been. Like the judge, she could only address the issue before her—the construction of the arcology.

She couldn't demand new programs for the compnet. Who would write them? And to what end? She couldn't impose a new social order on the residents of Mahoning County. Who would watch over to see that the old patterns did not reemerge?

That was one of the curses of being

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

an Intervenor, she realized. She could see what needed to be done, but all the power that the Unification government gave her did not allow her to do it. She was there to resolve a crisis, to release blocked energies so that they could work themselves out in time. She was not there to impose her vision of the social order on the opposing parties. Maybe the groundlings didn't think so, but an Intervenor had to know better.

It was a hard lesson to learn and not one that they taught in the classroom.

"Look at me," she said suddenly. "I'm starting to act like my brother, telling other people how to live their lives." She shuddered at the thought.

There was only one choice to be made here, whether she liked it or not.

Build the arcology—yes or no. The crisis over the arc grew out of deeper problems, true. The balance of forces down below had become locked in place over time. Now that balance had to be disrupted, diverted in a new direction.

And there was only one direction that balance could be moved in—upwards, into the arcology and its vertical extension of society.

She saw that now—even though she still had serious doubts about the short-term problems it would cause. Short-term for the society as a whole but long-term for those who would have to live with them, she thought bitterly.

The masses would be happy at first, but that wouldn't last long. Their reasons for wanting the arc were all wrong. The motivations for those who wanted to build it were even worse. All Ellen had to offer the masses was an imperfect future and incomplete change. But to leave things unchanged would be an even greater crime.

In the end, the people of Mahoning County would be free to find new arrangements for their lives and a new balance of social forces.

One thing was certain, Ellen thought suddenly: Diane wasn't going to be happy with her at all. . . .

EIGHT

"I have a secret to tell you, Diane, but I don't know if you're going to want to hear it," Ellen said. They sat together, alone in Judge Martell's luxurious office. The meeting had been engineered by the judge. Ever since Ellen made her decision public and directed the commission to approve the arcology, Diane had been avoiding her.

She flipped her head and tossed her auburn curls, defiantly turning away from Ellen. But the pose only lasted a moment. Then she reverted to the warm, personable face that Ellen took for the real Diane Trayner.

"What kind of a secret?" she asked.

"About who you really are," Ellen replied. "You see, the self-conscious egocentric stuff about the so-called taxpayers in the city being born to lead the masses in the villages is not what you are really all about. At the moment you are just a product of your environment. Those values are the first ones you learned—but they're not the only ones you can learn."

Diane turned up her nose again. Ellen sighed. You could never tell someone the truth about themselves. Why did she even try?

"Your environment is going to change and you're going to change with it. You may find that a lot of what you

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

thought was true was just a temporary circumstance."

"I am what I am," Diane said. "Nothing's going to change that."

"I'm sorry then. I probably shouldn't have said anything."

"I'm sorry too, Ellen. I don't know—I thought you could be a friend. Someone I could trust. But I'm not sure who you are at all."

"Sometimes neither am I," Ellen confessed.

Diane stood up and started for the door. She brushed by Ellen and paused, reaching out to touch her arm. "I wish you'd decided the other way, but I'm not going to hold it against you."

"Thank you," Ellen said. Then she was gone.

A short time later, Ellen met John Patterson at her aircar. She looked at the young man and thought about her brother. He'd been that age when he left home. She had never liked her brother, but at that age, he was almost human and had stopped abusing her.

Then she thought for a moment about what might have been if their roles had been reversed. If she had been the Only Child and her brother had come along and disrupted the balance.

She decided she would have treated him a lot better than he treated her. More like the way she felt towards John.

And John Patterson was just about the only person she'd met in Youngstown who had been level-headed and unselfish throughout the crisis. She wondered about that, once she had the leisure to reflect. What made him so innocent?

It had to be something about the ground that spawned him, she decided, something about the valley in the Appalachians that sheltered him from the evils of the world down here in the flatlands. After the last few days, she wanted to see what made that place so special. And with the time off that was coming to her, she could see no reason to deny herself that pleasure. . . .

"Are you ready to go?" she asked.

"Yes, ma'am," he said as he picked up his pack and followed her to the aircar.

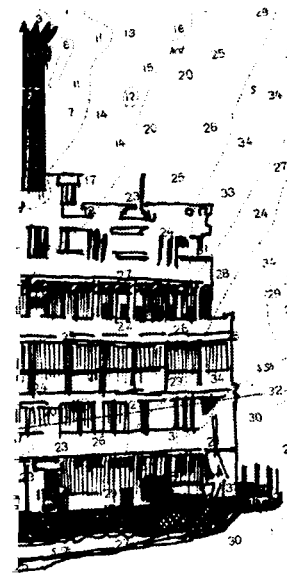
"All right then," she said as they climbed inside. She activated the navigation console, turned to John, and asked: "Just where in West Virginia do you come from?" ■

●Everyone believes that what suits him is the right thing to do.

J. W. von Goethe

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



AN EMPTY WHEELHOUSE

Sean McMullen

"Alien" doesn't have to mean what people usually understand by it. . . .

Broeck Steadman

LICENSED TO NZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Notes on the deaths of John Jenkins and James Stuart (Hanged by the San Francisco Committee of Vigilance, 1851)

This part of the project was to determine if the Australian criminals Stuart and Jenkins had any connection with Rob McIver, who was shot dead on May 25, 1851. Both men were members of a gang known as the Sydney Coves, who were all ex-convict Forty Niners. The Sydney Coves were described in the Annals of San Francisco as "stray vagabonds from Australia, where had been collected the choice of the convicted felons of Great Britain."

By mid-1851 local vigilantes had broken the power of the outlaw gangs, such as the American Hounds and the Sydney Coves, but law and order was still almost impossible to maintain. McIver was shot in the back as he left the Jolly Waterman on Telegraph Hill. His killer emptied his pockets before escaping. McIver had been an explorer in Australia before he sailed to California and struck it rich in the 1849 gold rush. In Oldfield's "Diary of a Vigilante," he is mentioned as having what he called a "lucky beastie" that found gold for him. Oldfield describes this as a tame possum with webbed feet that he led about on a chain. It died after being attacked by a bull terrier in April 1851, and McIver shot both the dog and its owner. His luck really did run out then, and he was murdered within a month.

John Jenkins was caught several weeks later, after breaking into a store, stealing a safe, then trying to row away with it in a boat. The Committee of Vigilance waded out after him, arrested him, and took him to their rooms in Battery Street for a trial. A ship's master, Captain William Howard, presided. He summed up the case with the words "Gentlemen, as I understand it we came here to hang somebody." A motion to hang Jenkins from the flagstaff was shouted down as unpatriotic, then a lynch mob took over and hanged him from the loading beam of a nearby warehouse.

The contents of the water-damaged safe were impounded in the strong room of another store. Three weeks later a second Australian ex-convict, James Stuart, was arrested while preparing to rob it. After his arrest Stuart was recognized as the notorious English Jim, wanted for gold robbery, horse-stealing, escaping from legal custody, arson, and murder. He was tried on Independence Day, 1851, and the Vigilantes marched him to the pier at the foot of Market Street for execution. When the city attorney, Frank Pixley, tried to rescue the prisoner the mob threatened to string him up on the derrick as well. Pixley later took possession of some papers from the safe that both lynched men had apparently been after, and Oldfield mentions that some of the documents had belonged to McIver.

The surviving city archives from that period have been searched repeatedly, but no trace of the documents has been found.

Helen always sent the results of her research out as electronic mail to an Internet address that was somewhere in the UCLA campus. Her cryptic instructions came on the same Internet system, and the money for her services always appeared in her bank account from some untraceable source.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Who would pay a history graduate so much to do research into obscure nineteenth-century documents? Not that $500 per week was so very much, but she had been working for months now without knowing what the point of the exercise was. It might have been an inheritance dispute, in fact that was her favorite theory so far. There was always plenty of money to do whatever was required to complete her instructions.

Today Oakland, tomorrow . . . would depend upon the message that she received in reply to her latest researches. She had been flown to New York, and found nothing meaningful. She had expected to be fired: instead she was flown to London to read old colonial office reports. Again she found nothing of interest, yet she was booked onto a flight to San Francisco to read records in the city's archives. The next trip was shorter, just a journey on the BART to read some rare documents in a library on the Berkeley Campus. By lunchtime the work was done. She packed her Toshiba laptop and modem into a shoulder bag, and dodged across Bancroft Way to the little group of shops and cafes just south of the campus. Neil was waiting at a sidewalk table, as they had arranged over the phone.

"So, still on that contract for those folks in LA?" he asked as she sat down.

"That's right. Whatever they want, I seem to be finding it."

"I'm leaving for Hawaii right now. I'm only in town because my connect flight goes through Oakland airport."

"Hawaii, great. I have no idea where they'll send me next."

For some minutes their conversation remained exuberant and facile, even a little hysterical. There were more important things to discuss, unpleasant things, yet the preliminaries could be made to last. Slowly, carefully, she assembled her meticulously rehearsed string of words, then took aim at a space in the conversation like an Indian stalking salmon in a stream.

"What are the job prospects like for historians in Hawaii?"

"Ah, not good, not good. You'd be cleaning motels, and serving in bars."

Missed.

"You checked already?"

"Yeah, I did. Hey, do you know who you're working for yet?"

In other words, drop the subject. "No clues. It could be the KGB for all I know."

"I doubt it, they're all doing contract work for the Arabs these days. It's probably someone trying to prove a bloodline with a millionaire who died without leaving a will."

"Then why the secrecy?"

"To have an advantage in court, maybe."

There was something tired and unworkable going on here, yet neither of them had the will to admit it. His face betrayed nothing; his smile was controlled to perfection. There was one more hurdle for her exhausted emotions to clear. Oddly enough, sex held no special terrors for Helen, but talking about it was the worst possible nightmare. Any sort of verbal exchange worried her; she wanted to rehearse her words, to type them into a computer then rearrange and polish them, hand the printout to Neil, who would give her a score out of ten.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I've got a room across the bay," she said while staring intently at her coffee cup. "It's not long on the BART."

"Look, that would be great, but, well I really don't have much time between flights. It was hard enough just seeing you here and . . . I'd better rush. My flight leaves soon."

When he had gone Helen slumped with relief, then ordered a large slice of coffee cake with plenty of cream. Free again, free from talk. She had studied history because most of the subjects were safely dead, with their words on paper. Her special project was a dream come true: the communications were terse, and arrived by electronic mail. Perhaps it would last for a very long time.

The next phase of the project took her back to London, and lasted a month. Each night she would open a line to her enigmatic employer in Los Angeles and type in a few likely records from the nineteenth-century registers. Only occasionally did she get a reply, and the replies were short.

At last she had a breakthrough. A clerk at the city attorney's office in the San Francisco of the early 1850s shared a feature with one convict: a pair of parallel scars on his chin. It was a small thing, but enough. Patrick O'Hallorin, an Irish immigrant, had been given a job in the city attorney's office in 1852, and had worked there for eleven months. He was five feet nine inches tall, and had brown hair and blue eyes. Those details fitted dozens of British convicts, but only Brendan Terrance Hooligan shared the scars too.

She expected a trip to Australia next, but however much her employers might avoid libraries, they had no trouble with electronic data. Some sort of scan of databases was done in the time that it took her to stroll along the Thames Embankment and have a cup of coffee. By the time she returned to her rooming house and made an Internet connection, they had found a copy of a Ph.D. thesis for her to examine.

It was held in a small collection in the University of London. An Australian student had done his urban demography thesis on the passenger lists of ships entering Australian ports between 1830 and 1860. The thesis was a thin book and ten computer diskettes. It took a morning to learn the student's customized access program, but after that the search was over in seconds.

Among the hundreds of thousands of entries there were three for Brendan Hooligan. He had arrived in Australia as a convict in 1840, left Sydney in 1849 for San Francisco as a discharged convict, then arrived in Melbourne aboard the *Queen of Tahiti* in 1855. He had tried to pass himself off as O'Hallorin again, but had been found out. A free text footnote in the database mentioned that he had been sentenced to nine years hard labor for uttering a false declaration, abusive language, and shooting a member of Her Majesty's Port Authority in the foot.

She typed in the few lines of research, and the reply appeared within an hour.

RECD: LONDON WORK COMPLETE. FLIGHT TO BOSTON BOOKED. TOMORROW MORNING. CONTINENTAL. INSTRUCTIONS FOR NEXT STAGE TO FOLLOW. . . .

If Helen loved the work she hated the travel. The flight west disrupted her

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sleep patterns, more because she stayed awake willing the wings and engines not to fall off, than because of the change in time zones. Perhaps there will be a lot to keep her in Boston, she thought hopefully as she propped herself against the customs counter.

She had to read through a list of books in various historical society libraries, keeping a watch for references to Hooligan. After eighteen obscure and indifferently written volumes she came to Sibil J. Henderson's *Impressions of Australis: Travels of a Boston Girl in Australia, 1896 to 1901*, published by herself in 1922. The style of writing annoyed Helen intensely. The author had recorded the details of her trip in fussy, exact prose, right down to spelling out people's accents. It was excessive, even by nineteenth-century standards. Unlike Helen, she appeared to have been a born traveler, always happiest when on the move, never worried about ships sinking or what to say to strangers. On page 122 she mentioned Hooligan.

Today, April 5, 1897, is a most glorious autumn day, and there could be no finer place on earth to enjoy it than here, steaming up this broad, magnificent Murray River on a paddlewheeler. I have just had tea with Captain McGinty under the bow awning. I am getting quite a strong taste for tea during my travels in Australia.

Captain McGinty is very formal, and comes from a strict Presbyterian family in Scotland. The other passengers have been finding him hard to talk to, but I discovered that asking him about his paddleboat is the way to his heart. He told me that the "Wee Robbie" weighs 200 tons, is 130 feet long, and has a horizontal high pressure steam engine of 40 horsepower. He gave me a tour of the engine room, and it was all polished brass and copper, cleaner than the dishes that meals are served on. I saw from a plaque that it was built right here in Australia.

After that we went back to the bow and sat under the awning while he told me all about the rivers and riverboats of Australia. Riverboats were very important in opening up the frontier here, just as they were in America, but I'm afraid that I just let my mind wander when he was talking about bales of wool and barrels of rum. The water ahead was almost smooth, and the brilliant blue sky and brown river were separated by a line of olive green eucalyptus trees on the bank. Black swans were bobbing on the water, and once we passed a strange, tatty little riverboat that was towing a barge half filled with earth with vegetables growing in it! The captain said that those people were river gypsies known as Murray Whalers. I asked him if the river had been more dangerous in pioneering times.

"Nae dangerous, just a wee bit unsafe. I suppose it was like America in many ways, and there were actually a lot of American boats shipped oot here before the locals learned to build reliable boilers. There were a few American captains oot here as well. Gus Pierce from Massachusetts was the most famous. He came tae Melbourne as a sailor during the gold rush. He was just a teenager, and he jumped ship and swam ashore in his underwear when the captain locked up the crews' clothing

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tae stop them deserting. He found nae much gold, but he worked his way up tae riverboat captain after a few years. He was a real character! When he retired he said that he came tae Australia withoot a penny, but left owing hundreds of pounds."

"Gus Pierce, you say?" I replied. "Was he interesting? Are there any tall tales about him?"

The captain laughed. "The only tales aboot Gus are tall tales, lassie. He's supposed tae have rammed and sunk a steam barge from under an Irishman named Bren Hooligan. Said that Hooligan stole some special beasties that could dive underwater tae find gold."

"Now that is a tall story."

"Aye, and let's see now, that would have been 1867, when he was captain of the sternwheeler Lady Daly. *Funny, because Gus dinna like tae talk aboot that ramming. Other things, well ye'd nae shut him up. I asked him aboot it when we met back in 1875, but he told me tae mind my own business. Nothing in the records, either."*

"So there's no record of the ramming? Is it just a tall story?"

"Well . . . it's hard tae say. Records get lost if a bushfire destroys a town hall—along with the rest of the town. Happened a lot in the pioneering days."

"Uh, bushfires?"

"Forest fires, ye'd call them. Now fires were also a problem with the old paddlesteamers. Sparks frae the funnels, burned holes in passengers' clothes, even set fire tae the cargos. Why later in 1867 the Lady Daly*'s sister ship, the* Lady Darling, *was lost when her cargo of brandy caught fire near Wahgunyah. Burned tae the waterline, she did, and there were grown men watching frae the riverbank in tears. Getting back tae that ramming, though, my chief fireman was on the* Lady Daly *when it happened. He was only fourteen at the time, mind. Pirate Bollinger, that's him. Rough as auld bags but a good lad. Would ye like tae meet him?"*

I declined his offer. I had not come halfway around the world to meet some coarse and vulgar stoker. Captain McGinty then told me about another American, Peleg Jackson, who had been the previous captain of the Lady Daly, *and who flew the Stars and Stripes when—"*

Helen booted up her Toshiba and typed in the passage before reading on. There was no more about Hooligan, so she returned to her hotel early and sent off the passage as Internet mail. One attempt to drive a rental car through some apparently suicidal Boston traffic was enough to confine her to her hotel room while the eyes on the other end of the Internet link made what they would of Sibil J. Henderson's adventures in nineteenth-century Australia. This time the wait was a single hour.

RECD: SATISFACTORY. FLIGHT TO MELBOURNE BOOKED. CHECK AIRPORT.

Satisfactory? That was an expression of ecstacy when compared to earlier replies. She wondered if they had meant Melbourne Florida or Melbourne Australia, but was not really surprised when her call to the airport was directed to international departures.

The flight was to San Francisco, then Honolulu, Auckland, and Melbourne. That meant a chance to see Neil, and to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

spend precious hours on the ground. He was working on the eastern coast of Hawaii, on a field trip near a recent lava flow. Using her own money she booked an Aloha flight and a rental car after rescheduling the rest of the journey.

It was clear that her status with Neil had been reduced to that of interloper. A bronzed microbiologist wearing a white bikini of open-weaved string regarded her suspiciously from the field station as they walked along the black volcanic sand. They had a lot to talk about, but somehow nothing important could be said.

"If an animal could find gold, how would it go about it?" she asked, on the brink of talking about the weather.

"An animal? Do you mean like a trained searcher dog?" Neil responded eagerly, also anxious to grasp at any neutral subject.

"No, no, I mean . . . well, it's this inheritance business. There was a prospector in the California gold rush who was supposed to have had an animal that could find gold. It was a possum with webbed feet, according to the writer."

"Probably just another tall tale. For a start, possums are marsupials, and that means they keep their young in a pouch. How would the young breathe when they went swimming? The other thing is that gold is almost inert chemically, that's why you find nuggets on some goldfields. It would be very hard to smell, so an animal would have no better chance of finding gold than a human—except that we use metal detectors now. Who was this guy, anyhow?"

"Just some Australian ex-convict who came over for the '49 rush, struck it rich, then got himself shot."

"Australia . . . now that's just the place to find possums. There are dozens and dozens of species there. Some are as small as your thumb, while brush tail possums are big and strong, and have been known to kill even small dogs that were dumb enough to corner them. Humans don't faze them, either: all the parks in Australia's main cities have wild possums, just like the squirrels in Central Park in New York. They're quite a tourist attraction, except that they have to be fed by torchlight because they're nocturnal."

He hastily scoured his mind for more facts about possums as the pause began to lengthen ominously.

"There are some types that can glide through the air, using membranes of skin between their front and hind legs. One of the large glider possums chews through the bark of trees and sucks the sap."

"A vegetarian vampire?"

"Kind of like that."

"But none of them can find gold."

"No, I guess not. To do that they would need an electric sixth sense, and the only mammals that have that are the monotremes. They're the only ones that I know about, anyhow."

"Now wait a minute. You mean some animals really can detect electricity?"

"That's right, the platypus and the echidna, and they're also Australian. Both have organs to detect the muscular electricity of their prey. Any animal that could also generate an electromagnetic field could act like a biological metal detector, but—"

"How about the electric eels of South America?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Well, perhaps, but eels are not bright enough to be trained. Now that you mention South America, though, I've just . . . remembered something from my first year at college. There is one aquatic marsupial in the world, a type of possum called a yapok. It has a fatty layer of skin at the edge of the pouch, which makes a waterproof seal when it dives—and its hind feet are webbed. The trouble is that it hunts by touch, not electric field."

"Could that prospector have had a platypus, then?"

"Nope. First thing is that a platypus looks more like a beaver with a duck's bill than a possum. Second is that it can only detect electric fields, and metal detectors work by generating their own electromagnetic field. Still, the idea of an animal that could find gold is not really impossible. Maybe that ex-convict guy really did find an Australian yapok that also had electrosensitive fingertips and a field generation capacity. Something like that would be able to find gold in muddy riverbeds."

A pause became lengthy silence. He's worse than me, he's a worm, he needs a spine transplant, she shouted within herself, then spent the uneasy minutes rearranging the words into a scathing put-down. It came out as:

"Well, I must go. I've got a connect flight to Australia."

"Oh great—er, place for a holiday."

Helen took a deep breath to relieve the spasm of grief. "I'll be in Melbourne, doing research in the state library."

"Any idea who you're working for yet?"

"No. Do you think they might want to know if McIver's animals are still around—if they ever existed?"

"Why bother? A commercial metal detector works a hundred times better these days. . . . On the other hand, I suppose that if you bred and trained a herd of a thousand or so, they do cover a lot more ground than a human, and for no more pay than a barrel of worms. It just might be possible, but then of course their scientific value would be astronomical as well. If you do find anything I'd, ah, drop me a line."

"I'll do that. I really must go now. Bye Neil."

He glanced back to the field station. "Bye Helen." No kiss.

It was only on the flight back to Oahu that she realized the glorious truth: the affair was over! No scene, no tears, no long, excruciating discussions. They had broken up by default. She celebrated by getting slightly drunk at a bar near the airport, then slept soundly for much of the long flight south.

Melbourne turned out to be the hardest phase of the project. She had to search through the local histories for references to Hooligan, especially the ramming of his riverboat. Weeks passed, with no result. There were no references to Hooligan, except for his death notice—he had drowned in the Murray River at Albury. After the local histories Helen searched the card indexes of the special collections, the collection of early photographs, and even the sound recording archives. She reported daily over her Internet link, telling her nameless employer of the lack of progress.

After the first week she had moved out of the hotel and into a student house

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

near Melbourne University. She was growing to like Melbourne, which was similar to Oakland and San Francisco, yet on a bigger scale. By now she had amassed a fair amount of background knowledge on nineteenth-century Australia's riverboat systems, especially on the role of Americans in running them. Might there be a Ph.D. topic here, after the project was over? Of course there would be an interview, yet this was on a subject that she understood well, and she would not be lost for sensible words. She took a tramcar to the University of Melboure.

The interview with Dr. Merrin of the history department went well. There was a shortage of students because of recent cuts in government funding, and being a candidate with a good academic record and comfortable savings made Helen a good prospect. The talk moved to her recent work.

"Riverboats?" exclaimed the lecturer. "There's a coincidence. Just last month the history department's library was given the manuscript of an old riverboat pioneer. He was in his eighties when he died. It's a sort of rambling autobiography, transcribed by one of his sisters from his own words. The writing is a bit overblown—it was done in the 1940s, after all—but it's full of good material. I was thinking of editing it for publication. Would you like to have a look through it?"

She certainly did. The straggly writing was on musty paper, with the blue ruling running slightly. On the fifteenth page she found the holy grail that had drawn her around the world.

Then there was the time dad worked for Bren Hooligan, a really mean cove. He came out of the eastern highlands driving a bullock cart with a hardwood cage on the back. There were ten possums in it. One of his men told dad that they were called wateroos.

Now Hooligan hired a sternwheeler steam barge and had the cage put on board while he and his two men went off to buy supplies and fuel. Dad was always hanging about on the docks looking for odd jobs, so they paid him a shilling to feed the possums and clean the cage.

Dad liked animals, and these were so tame that he started to let them out of the cage on a leash, one at a time. He noticed that their back feet were webbed for swimming, and their forepaws were just like hands. Their fingertips were big, soft pads, and gave dad a tingling feeling when they touched him.

Around noon he was sitting on the edge of the barge, flipping his shilling in the air and feeling pretty pleased about having such easy work. Well, he missed a catch, and the coin hit the water. Without thinking he let go of the leash and started to take off his shirt to dive after it. Suddenly the wateroo that was out of the cage jumped straight over the side and disappeared.

Dad said that he was really frightened, and was about ready to pack it in and go bush because Hooligan would have shot him. Then the wateroo surfaced with the coin and handed it to dad. He dived again, and again, going on for about half an hour until dad had over one pound in lost coins, and a gold watch on a chain.

Well dad wasn't stupid, he pocketed the loot. When Hooligan's two men re-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

turned, though, he couldn't resist showing them how the wateroo could fetch a coin out of ten feet of water. They patted him on the head and gave him another shilling, then stood talking for a while. Then, without getting clearance or anything they fired up the boiler, cast off, and went steaming away down the river. Dad thought nothing of it, he just sat on a barrel, flipping that shilling in the air. An hour later, along came Hooligan.

"Where's me barge?" he shouted.

"Your men steamed off with it an hour ago," dad said.

"You're the kid we paid to feed the wateroos," he said, grabbing dad by the hair and shaking him. "Where are they? Are they all right? Any sick or dead? Tell me, ye hear?"

"They're all right, they're on the barge," dad shouted. He thought Hooligan would drown him or something. "They're not sick, Mr. Hooligan, why I had one diving for coins around noon. I looked after them real good, that I did Mister Hooligan."

Now Hooligan looked really worried. "Coins? Diving?" he said. "Did ye show Bill and Zeke that trick of diving for coins?"

"That I did."

"Hell and damnation, boy, how d'ye think they find the coins?"

"They see them—"

"See them be damned, nothing can see in ten feet of muddy water and six inches of silt. They've got special fingers, they can find metal under water and—and why am I wastin' time here? Come on!"

He dragged dad along the dock until they came to a riverboat that was just stoking up. It was the Lady Daly, *and her captain was the yankee, Gus Pierce. He made dad tell Gus everything about the wateroos, and yelled at Gus to chase after them.*

"Sir, it seems like a lot of fuss over a few possums that can find coins under water," said Gus.

"Fool, fool, don't ye see?" shouted Hooligan, almost crazy. "They can find anything *metal underwater. They can find gold!"*

"Gold! Is that true, boy?" he asked dad. Dad showed him the gold watch, still covered in river silt. He turned back to Hooligan.

"Mr. Hooligan, instead of chasing off after your partners, why don't we just go catch some more wateroos then go prospecting?"

Hooligan threw his arms in the air and jumped up and down on the deck.

"The local natives said that there were only fifty left, and that they all lived in one particular mountain pond. They were too hard to catch, so I blasted the pond with barrels of gunpowder. Ten were stunned, the rest were killed. Those ten on the barge are the only ones left in the world! I'll pay ye one hundred pounds, see, I've got the money here. Just get my wateroos back."

That was enough for Gus. He had the Lady Daly *cast off and steered down the river, steaming all out. Hooligan's men didn't know much about steam engines, so they were pottering along slowly, trying to get the hang of things. The* Lady Daly *caught them up by mid-afternoon, and after a few shots from Hooligan's Henry Repeater the pair dropped anchor and raised their hands.*

After Bill and Zeke were locked up

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Gus asked to see a wateroo in action. Hooligan let the biggest one out and made dad drop that gold watch overboard. The wateroo dived and recovered it.

"Now that's mighty impressive, Mister Hooligan," said Gus, looking thoughtful. Hooligan just grunted and started to count the hundred pounds out of his bankroll.

"Now hold on there, Mister Hooligan," Gus went on. "Seems to me that I just did you a valuable service, and that those wateroos are worth more than a hundred pounds. Tell you what, why not keep your money and leave one wateroo with me."

"No!" snapped Hooligan, holding out the money. "We agreed on one hundred pounds. The wateroos are all mine."

Gus just stood there, twirling his handlebar moustache.

"How are we to know that?" he said, smiling. "What say we go back to the Albury magistrate and let him figure it out."

"They're mine!" shouted Hooligan, suddenly raising his repeater. Gus must have thought it was a joke, because he just kept smiling and stepped forward. Hooligan fired a shot between his feet.

Gus jumped back. Dad dropped the wateroo's lead and raised his hands, and that wateroo jumped right over the side. Hooligan cursed dad like a demon in drink, but it was too late so he jumped onto his barge and cast off. Now the steam barge was fast and light, and the Lady Daly *could never have caught it with an experienced man in charge. But the big riverboat was downstream of the barge, and as Hooligan came around Gus called the engine room for full steam and steered to cut him off.*

Gus leaned out of the wheelhouse and called "Stand to, Hooligan, and turn those critters over."

Hooligan shouted back "Stand off, yankee doodle, or I'll have the redcoats after ye." Then he raised his Henry Repeater and fired two shots through the wheelhouse window. Gus jumped out of the wheelhouse and took cover behind some bales of wool with dad. He returned Hooligan's fire with his two horse pistols. Suddenly dad noticed that the Lady Daly *was changing course and heading straight for the steam barge. Hooligan tried to steer out of the way, but even though the wheelhouse was empty the big sternwheeler changed course again and rammed that steam barge.*

Being twelve times the weight of the barge, the Lady Daly *rode up over it and forced it down until it filled with water and sank. The wateroos were locked in their cage and never had a chance. There was floating wreckage everywhere, and then they saw Hooligan thrashing about in the water. When they pulled him aboard he had a couple of dozen cuts, some of them quite deep.*

He was raving mad, saying that the free wateroo had stabbed him with a knife and taken his keys to unlock the cage. Well nobody was going to check on that in a hurry, as the barge sank in forty feet of water. He was locked up and taken back to Albury with Bill and Zeke. Dad said that Hooligan took to rum and drowned five years later when he fell off the pier. The funny thing was that dad's fishing knife did go missing during the excitement.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

After so much time and effort the end came as an anticlimax. She transcribed the text onto her Toshiba's disk and plugged it into the modem. This time it took forty minutes for the Internet message to arrive, but there was no denying that this was the end.

RECD: CONTRACT CONCLUDED

Helen stared in disbelief at the words on the screen, her mouth hanging open. Disbelief turned to admiration. The words were clear, sharp and absolute, there was no agonizing lingering, no searching for words to cushion the blow.

In spite of the hot, humid summer evening she sat in the kitchen of the student house for two hours. For a change she needed someone to talk to. The shadowy people on the other end of the Internet link had been secure, reliable companions, people who spoke her language, but now she had been betrayed. No, not betrayed, not at all, they might feel guilty—but she *had* been betrayed, and they *should* feel guilty! There was such a thing as common courtesy, telling people where they stood: which she had not done with Neil.

"Neil, let's split." She said the words aloud, then cringed at the way they reverberated in the silent kitchen. "This isn't working!" The words were easier this time. They could have saved her the cost of a flight and a hire car.

There was a loud thump on the veranda roof, followed by the patter of heavy feet. Helen glanced at the chewed stump of a marijuana plant in a pot by the window, then smiled. Possums, and city-wise possums at that. "I suppose it's nature's way of telling me to give it up," the plant's owner had said ruefully.

The halting mutter of a badly tuned motorcycle in the street outside announced that someone else was home. Roger was a tutor at the university's computer center.

"G'day Helen," he said, putting his helmet on the hall stand. "How's your day? Mine was shocking. Want a coffee? White with a sugar, isn't it? Caught a hacker, smart bastard, too."

"Hi Roger. I got fired." The words were spoken before she could stop herself.

"One of our second year students. Think they know it all when they're in second year—fired?"

"That's right."

"Jees, that's a bit poor."

He sat down and stared across the table at her, unsure of how to be helpful. Back in the States he might be called a computer nerd—a cybernetics expert with limited social skills.

"Did you get that grant?" she asked. That's right, change the subject, she fumed to herself. You want sympathy, but don't ask.

"Oh yeah, forgot all about that, what with the hacker and all—I'll be working with a physiologist. He has a volunteer who lost an arm in a car crash, and we're going to wire the nerve stumps into a computer interface. We'll see if we can give him enough control to simulate typing commands by nerve impulses alone."

"So he could just be sitting there typing by thinking about it?"

"That's close. We're also going to feed impulses back to see if he can communicate with the machine without us-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing a screen. Rather like giving him an electrical voice and ears."

An electrical voice! Abruptly a vast number of stray facts in Helen's mind locked into one fantastic pattern. Possums, tingling fingers, a riverboat steered from an empty wheelhouse, awkward and cryptic instructions on Internet.

"Could you tell me about Internet?" she asked, suddenly eager.

Roger blinked. "Well, it's just a network of research computers. It started off in the USA, but it's worldwide now."

"But how does it work?"

"Oh, TCP/IP protocols, and you can have best effort packet switching, dedicated links, or electronic mail. The famous Internet Worm of 1988 spread through the electronic mail."

"I don't understand any of that."

Roger scratched his head. "I'm not sure I can make it any simpler," he said after a moment.

"Look, my former employers supplied this Toshiba laptop PC and a telephone modem. I turn it on, plug it in, then type CONNECT."

"And?"

"I get connected, from wherever I am."

"There's probably some sort of communications program in the PC. It broadcasts your ID packet through the Internet. Rather like calling someone's name in a crowded party."

"Hey, that's great! Why can't you explain things so well all the time?" That was a bold thing to say. She felt proud of herself.

Roger smiled, frowned, opened his mouth to reply, then decided against it.

"Can I use the Toshiba?" he finally asked.

It was beside her chair, and she handed it across the table. Within moments he had it running.

"Strange file names," he reported. "One's called CONNECT, the rest are A, B, C, D and E. No imagination at all. I mean TEST and FRED are bad enough, but A and B?"

It made sense to Helen.

"So you can wire a computer directly into someone's nerves."

"Yeah, of course. It's been done for years, but we're trying to do it a lot better." He inserted a diskette into the Toshiba.

"Suppose we had evolved electric speech? Could we work better with computers?"

"I don't follow," he said, tapping at the keyboard.

"Suppose we could speak using electric impulses when we held hands. Could we 'speak' to computers with those impulses?"

"I . . . suppose so, in fact it could be a real advantage over keyboards. The only trouble is that electrical speech would be no help while climbing up the evolutionary tree. Imagine trying to run a hunting party if you had to touch hands before talking."

Helen was aching to talk about an intelligent, electrosensitive animal surviving long enough to exploit an evolutionary niche in the worldwide communications and computing networks, but her terrors came back. She would sound crazy; she wanted Roger to think well of her. Did he matter? Yes, dammit, he was—she blushed.

Roger stood up. "Think I'll go up-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

stairs and turn off," he said, removing the diskette from the Toshiba and handing it to her. "There, I've copied the Internet link programs onto this floppy."

"What for?"

"Suppose your bosses take your portable back, but you discover that they still owe you money. All you have to do is put this into a PC with a modem, then type A: CONNECT to raise them and say pay up."

She sat turning the diskette over in her fingers as he walked to the stairs. The telephone rang as he passed the hall stand.

"It did what? Just like that? OK, OK, I'll come over and try to unscramble the mess. Ten minutes, OK?"

He took his helmet from the hall stand and called back to Helen.

"Problem at the computer centre. Sounds like one of our genius undergrads hacked into the Cyber and made a few creative changes to the operating system. I may be out a couple of hours."

With Roger gone she was alone in the house again—the others had gone on a hiking trip. She went up to her room, locked the door, and switched off the light. Alone in the blackness, she had confidence. The night was still hot and oppressive, so she took off her clothes and lay naked on her bed. She tried to imagine possums that climbed unseen into communications towers, fingered cables, and manipulated the electronic arteries that controlled the world. Music from her clock-radio pleasantly overlaid the background from traffic outside.

They had been in decline when Europeans had come to those remote mountains in southeast Australia. Then McIver had come past in the 1840s. Perhaps he had dropped a coin or ring into their pool, and one had retrieved it. If aquatic possums could find a gold ring, they could find nuggets also. He took one to California and struck it rich, then talked to Jenkins, Stuart, and Hooligan. The rest was history, a history that Helen, alone of all humans, knew.

Hooligan had blasted their pond, stunning a few and killing the rest. Caged and terrified, the last members of the dying species had been carted away and put on Hooligan's steam barge. What nobody had realized was that they might be intelligent, more so than a dog, or even a monkey. One leader, their own Napoleon, Washington or Cromwell, had watched and learned about tools. It had been a standing broad-jump over millions of years to go from mountain pools to steering a riverboat, using keys, and fighting with a knife, yet . . .

Yet they were aquatic, the use of fire was inimical to them. Their intelligence kept developing without technology, along with an electronic language without wires. Intelligence and speech, but no technology. All at arm's length. After escaping Hooligan they found the early electric telegraph wires strung out across the countryside, and suddenly a huge, empty ecological niche beckoned to them. They could talk in large groups, and over great distances. Were they cybernetic mice or something more? In communications they had a head start, using their natural language while humans used Morse code. More than a century had passed, yet they remained unknown and made no bid for

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

power. Perhaps they had no need to dominate, they merely wanted to preserve the electronic environment that served them so well. So why did they need her? If they understood human computer systems but not human culture, they would need help to trace their own history.

There was a brief fanfare from the radio, and a news bulletin began. Helen listened without hearing. Reports of some local bribery scandal were followed by the cricket scores.

"And here is the State news. A forty-seven-year-old lecturer from Melbourne University was killed tonight when his car failed to take a bend on the Yarra Boulevard. He was Dr. James Merrin of the department of history. The car was completely burned out. . . ."

Helen sat up on the bed, shaking the little radio as if to get more news out of it. Merrin, dead! She had phoned him only that afternoon. He said that someone in the US had made a very large bid for the Bollinger manuscript, but he had refused it. He was taking it home with him to begin editing it for publication.

Tiny hands could tamper with the brakes of a car. With a gasp she jumped up, flung the bedroom door open and ran down the stairs to the kitchen. The Toshiba was gone. Naked, shaking with fright, she sank to the floor. They were here! They were desperate to have all records of their existence sponged from human libraries. Even working in secret, after hours, the wateroos could not easily use libraries, so they had hired Helen to trace their history.

And they kept her on the move. What happened in her wake? Did pages disappear from files, books vanish from shelves, data get corrupted in historical computer databases? Had others died? Her work was over now, and she was the only human expert on them. Her work was done. Merrin was dead. She would be next.

She shivered continually in spite of the hot night. How would they come? This was no way to die, sitting naked on a grubby kitchen floor ten thousand miles from home! They were small, they would masquerade as common possums, they would not carry weapons. They would set traps, that was it. She was safe as long as she did not move, but she had to. She was naked, her hair tangled, her face streaked with tears, if Roger came in she would die . . . her sobs became laughter for a moment.

Yet they were probably frightened too. Once they had been rare, powerless, yet immensely valuable. They had been very nearly wiped out by humans because of that. Now they were powerful, yet perhaps still vulnerable. Humans would fear them. This time their extinction might be from systematic slaughter, not bungling incompetence.

Helen noticed her jacket draped over the back of a chair, and she reached for it. Her fingers closed on something hard in a pocket. A diskette. The diskette that Roger had prepared from the missing Toshiba. With a sudden surge of hope she took the diskette out and flung the jacket aside. Roger had a PC in his room with a modem wired illegally into the house telephone. She could get in contact with them! Then what?

Plead for mercy? Threaten to expose them? Swear that she would never mention them to anyone? They were aliens,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

true aliens. They had minds and values unimaginably different to those of humans. She could not reason with them, they would not feel pity, or guilt, or greed. She was the worst of communicators, yet she had to be the first human to consciously contact an alien society. Or die. What to say? "Give me a line to your leader?" Too silly. "Please, I know you want to kill me but I promise not to expose you." No, too dramatic, she would rather die than . . . she laughed again.

When do I speak most easily, she wondered. When telling people what they wanted to hear. "Mom, I got honors," had been easy. "Sure Neil, I don't mind if you take Lindy to Aspen." Well, that had hurt, but it had been easy. Yet these were aliens. Webbed feet, electric fingers, furry bodies, so who could know what their values were? Yet they did value things, they had paid tens of thousands of dollars to erase themselves from human history. She could make them listen.

Slowly, carefully, ever watchful for trip wires and traps, she climbed the stairs and walked down the passageway. Roger's door was unlocked. She looked in. It was chaotic, rather than dirty, and a PC stood ready on his desk. She booted it up, inserted the diskette and typed A: CONNECT.

BAD COMMAND OR FILE NAME flashed at her. She gasped, her heart sank, tears trickled down her cheeks as she teetered on the brink of hysteria. She held on, forced herself to think. There were two slots for diskettes in this PC: perhaps the top one was not drive A. She removed one of Roger's diskettes from the lower drive and replaced it with her own. She typed A: CONNECT again. Now there was a familiar series of connection messages, but no master acknowledgement: they did not want to talk, but were they listening? Helen typed.

Extract from the newly discovered diary of Rob McIver:

December 10, 1848: Now the funny thing is that whenever I touched the beastie's fingers I got a tingling feeling, like when you sleep on your arm and wake up with it feeling full of pins and needles. I am not a well educated man, but I think this is something to do with the way it can find coins that I throw into the pool. If I was to take the beastie to a gold rush, it could find enough gold for me to buy Buckingham Palace."

NOW THAT I HAVE YOUR ATTENTION, ASK YOURSELVES IF YOU CAN VERIFY THAT QUOTE. IF YOU CANNOT, YOU NEED A GOOD HISTORIAN. YOU NEED ME.

Forty minutes passed, forty minutes of staring at a screen and scarcely breathing while her life hung by an electronic thread.

RECD: ACKNOWLEDGED. PAYMENT ON COMMISSION

She flopped across the desk in relief, utterly drained. It was like lying in a stupor after good sex, all exhaustion and contented bliss. Sleep washed around her like a warm incoming tide. Roger would be home soon, would find her here. What would he think? She smiled. What would she say? She would find words. After tonight, communication with mere humans would never again be a problem. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

brass tacks

Dear Dr. Schmidt:

I enjoyed "Global Catastrophes" (May 1991). My opinion, as a working geologist, is that large, repeated impacts have drastically affected the evolution of life on Earth. S.J. Gould's wonderful book *Wonderful Life* argues this case nicely.

The hesitant efforts to defend our home planet from such a catastrophe make an interesting commentary on social priorities. It's clear that even a mid-size impact would destroy our civilization. Yet we haven't even finished making a catalog of the potential planet-wreckers. The instrument being used to catalog the asteroids that cross Earth's orbit is a 36″ reflector on Kitt Peak, built in 1920. The Spacewatch program at the U of A has been trying to get money for a modern instrument for over 10 years. I don't suppose the total budget for defending our civilization from destruction from space is over $2 million/yr.—an interesting comparison to the recent outpour of blood and treasure to defend distant oil fields and emirs.

You can help. Spacewatch solicits contributions of any size and has already raised >$300K in private contributions. Info: (pls enclose $1 p/h)

Dr. Tom Gehrels
Spacewatch, Space Sciences Bldg.
University of Arizona
Tucson, AZ 85721

A note to your congressman would also help cure this sad and ludicrous situation. What else is a government for, if not to defend its citizens from catastrophe?

PETER D. TILLMAN

Tucson, AZ

Dear Stan:

I have just read your May 1991 editorial ("Foolproof"), and I couldn't agree with you more! I strongly believe that one of the major characteristics that has made humankind successful on this planet (and that will hopefully lead us to success off of it) is our love of a challenge. When the challenge is big, the risk also is big.

My love of a challenge is one of the reasons that I—a prisoner of a far too civilized society—crave wilderness. Wilderness is one place where you still have the God-given right to make stupid mistakes and kill yourself. You can manage that in a city or on a road in a hot car, but usually not without risking the lives of someone else as well. I decided to become an engineer during the space-race days of the '50s and '60s. But because of my age—and our slowness in getting off-world—I suspect that I will not be able to risk exploring another planet. I'm also in no condition to climb Everest, and I probably won't spend a season snowbound in Alaska. But I can go to the Sierras and climb a mountain. There I can remind myself that if I'm stupid I won't just embarrass myself, or lose my job, or something so mundane. All of that seems pretty trivial when I confront the fact that I can *really* get hurt if I am not careful and logical and determined. I don't want that experience made safe! I swear that no matter how old I am I *will* (stop the world and) get off (Mars, anyone?) if lawsuits and consumer protection ever take away my right to challenge myself and risk my

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

life in the wilderness!

Hopefully my kids (and theirs) can continue to enjoy this risk, as well as those offered by worlds other than our own. It gives life a perspective that is absent in a completely "safe" world.

LINDA L. CLEMENTS

Fremont, CA

Dr. Schmidt,

Sir, I am writing in response to your editorial "Foolproof" (*Analog*, May 1991). I'm not sure who I should credit these two statements to, but I have found them to be very true.

1. The difference between ignorance and stupidity is: Ignorance can be cured through education. Stupidity is always fatal—one way or another.

2. Yes, it is true, the meek will inherit the Earth, because the bold will take the necessary risks to reach the stars.

Those people who are afraid to allow others to take the reasonable risks in advancing our species, will eventually do one of two things, (bluntly put): die off, or kill the rest of us. Hopefully; the former and not the latter.

Thank you, and keep the great editorials coming.

KIM L. HUTCHINSON, USAF

Ft. Meade, MD

P.S. Is there any chance we can have a few more Probability Zero stories? Or, perhaps a published collection of them. The five minutes of reading has always given me hours of entertaining thought.

We'll continue to use "Probability Zero" stories whenever we can (a) get them and (b) find room for them.

Dear Mr. Gerald Nordley:

I'm responding to your letter in the May 1991 Brass Tacks column. Discussing how to get people to aid the environment by recycling paper bags and similar materials, you suggest government action as the key. Referring to "an economy based on robotics," you comment that "means should be found to distribute the wealth generated by the machines. Simply hoping that a free market system will somehow evolve a socially tolerable way of doing this feels somewhat irresponsible. Perhaps governments should buy bonds in robotics firms and recycle the interest into social programs . . . "

The fact is that the benefits of robotics—or any change in production that reduces costs—already are automatically distributed to society in the form of lower prices. Even for those individuals who are not direct customers of companies using robotics, the lower prices reduce costs for the intermediate suppliers—again, in a competitive economy, savings are automatically spread throughout the economy.

Using government action of any kind in this process unfailingly produces higher costs and inefficiencies, not to mention reduced freedom for the citizens—witness Eastern Europe. For more illustrations, may I refer you to the publications of the Reason Foundation.

You are quite right in saying that "the . . . secret is to set things up so that most people will instinctively do the right thing . . . " This is what the free market's price system does. If the price of water rises, people will be more careful not to waste it, and there will be no shortage. In the case of the paper bags, the price incentives are not present because stores give them away (of course, the cost is included in the food prices.) The stores don't charge because the cost of the bags to them is so small—and because no one wants to be the first to charge. A store which offered free coupons (for example) to those who brought their own bags, would likely enjoy success. They would have to ex-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

periment to see how much to offer to get a response.

There is always a way to accomplish these things by the operation of the free market—with no government participation or supervision needed or wanted. May I urge you again to read the Reason Foundation publications?

RINEHART A. POTTS

Glassboro, NJ

Dear Stan:

As I was reading *The Starflight Handbook* (by Eugene Mallove and Gregory Matloff, published by John Wiley & Sons, 1989), a fascinating juxtaposition crossed my mind, and I pass it on to you. On page 183, the authors essentially describe the following (paraphrased):

> Blackness, blackness all around, except straight ahead a bright, dazzling, blinding light. As we are drawn down that tunnel of blackness toward that point of light it slowly expands, as we near its source, and then, like an unfolding rosebud, opens up into its full majestic breadth and natural color.

The authors are describing the relativistic effects of cruising at near lightspeed and then decelerating. But that sure sounds like the typical vision of "near-death" experiences, about which so much has been written lately.

I'd bet that a good author could have some fun linking the concepts.

JEFFREY G. LISS

Dear Dr. Schmidt,

The *Analog* manuscript guideline sheet contains the following statement:

> "Basically, we publish *science* fiction stories. That is, stories in which some aspect of future science or technology is so integral to the plot that, if that aspect were removed, the story would collapse."

That was exactly what happened when I read "Stinker Station" in the June '91 issue—an otherwise nicely written story suddenly became nonsense because of a gross technical error!

The climax of "Stinker Station" is Gene's "ingenious" (though unsound) method of activating an alarm which can save his life. He does it by shooting a large spit ball at the cable to which the alarm switch is connected, expecting that the water in the saliva will absorb sulfur *dioxide* (SO_2), which is present, and become *sulfuric acid* (H_2SO_4), destroy the insulation on the wires, and cause a short circuit which will sound an alarm that could save him.

There are two improbable premises here—and one real howler!

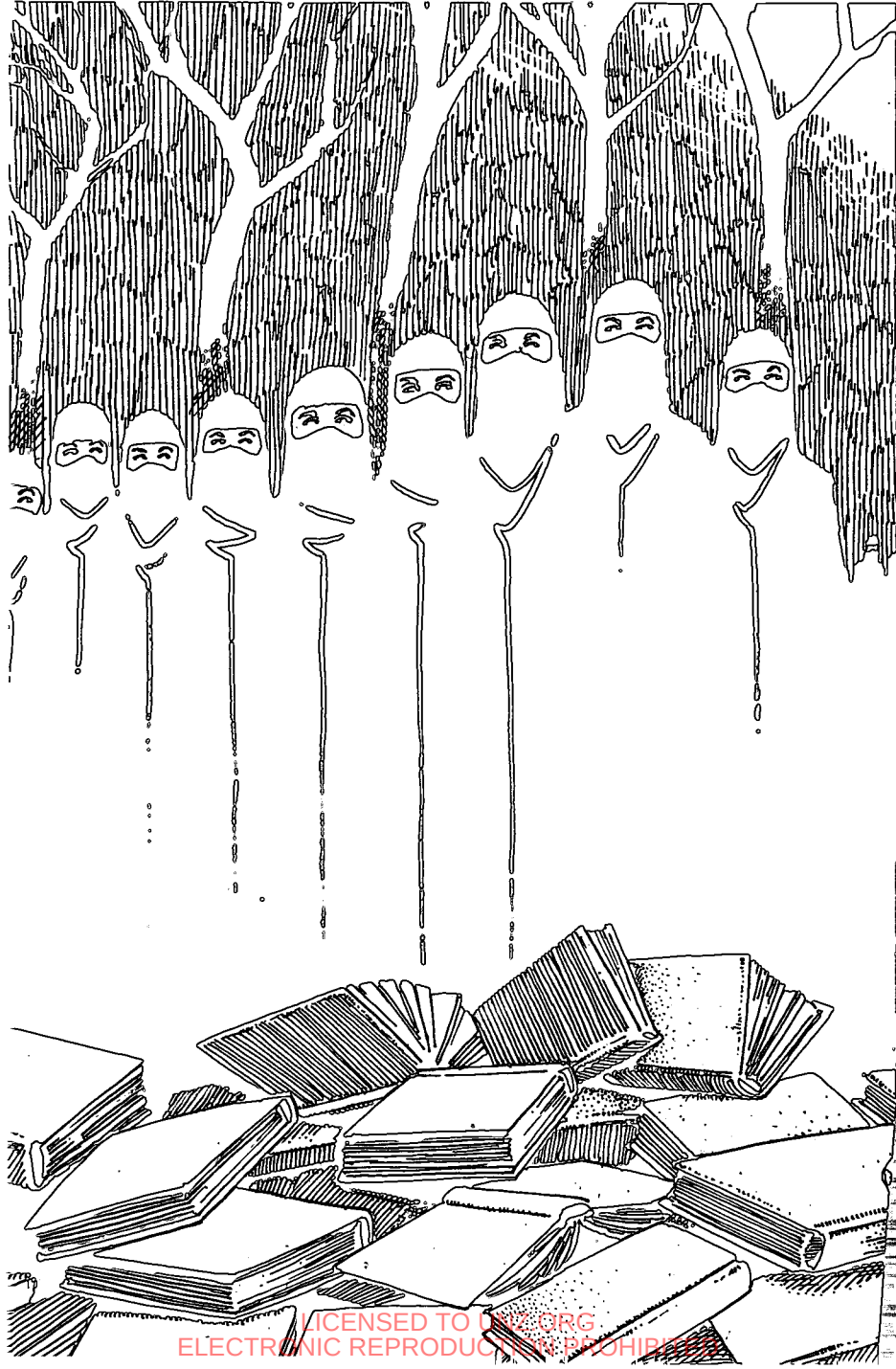
1. Two wires, even a twisted wire pair, with the insulation destroyed, may last for *years* without actually shorting together unless pinched or disturbed—I have seen this happen many times!
2. It is unlikely that a sensitive circuit such as this would not be carried in conduit—even more unlikely that the insulation used would not be impervious to the environment, i.e. acid proof.

The first two are, admittedly, quibbles—I could live with them—it's the third that flabbers my ghast and turns the whole story into nonsense:

3. $SO_2 + H_2S$ do *not* combine to make sulfur*ic* acid, H_2SO_4—what they *do* make is sulfur*ous* acid, H_2SO_3, which is weak and unstable; the reaction is reversible. I would hate to see *my* life depend on H_2SO_3 eating its way through *anything*.

(Continued on page 314)

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

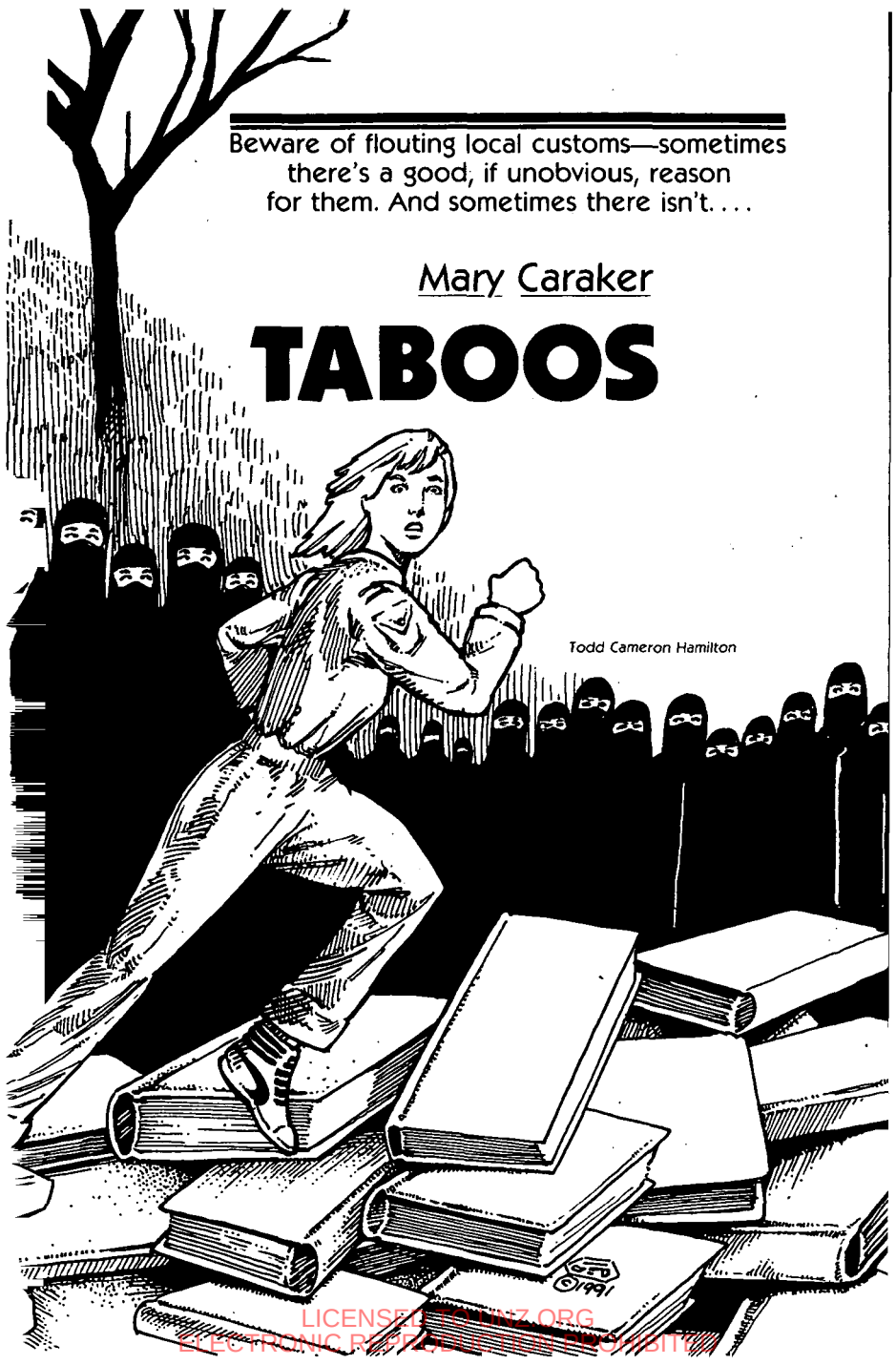


LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Beware of flouting local customs—sometimes there's a good, if unobvious, reason for them. And sometimes there isn't. . . .

Mary Caraker

TABOOS



LICENSED TO LINZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You will be dead in sixty seconds," said the Thraxian executioner. As he broke open the capsule and threw it on the floor of the cell, a finger of oily gray cloud rose from it. He exited hurriedly, closing the metal door behind him with a resounding clang.

Morgan crouched against the farthest wall and took in a last lungful of unpoisoned air. The cloud was now extending gaseous tendrils in all directions. It was time for her life to start passing before her, but she could think only of the horror of a suffocating death. She had longer than the pronounced sixty seconds, she knew, thanks to her underwater training on Epsilon Maris, but what did an extra minute or two matter? Nothing at all, unless . . . she summoned desperate resolution. No, she wasn't giving up. She'd been in tough spots before, though admittedly nothing like this, and she'd always found a way out.

Her eyes searched the square, stone-walled room. At the high ceiling a barred window of a translucent substance admitted the only light, and it admitted as well her only possibility of escape.

A thick-bodied Thraxian prisoner would never think of climbing the wall, but Morgan had learned rock-scaling techniques on the cliffs of New Scotia. If only . . . yes, the crumbling mortar between the stones allowed a shallow purchase. Morgan kicked off one boot and started up.

Fingers and toes sought niches and found them. Scrabbling, reaching, she barely managed to keep above the rising gray cloud. One more gasp of clean air, and the lethal gas was all around her.

But the window was now within reach. Morgan's fingers grasped the bars, and with streaming eyes and tightly-held breath she pulled herself up. The heel of her remaining boot was hard enough to pound away the window mortar, though it was thicker than she had expected and her lungs were soon once more bursting. Hanging to the bar with one hand and working her clumsy tool with the other, starving for air, she finally pried away a last chunk to admit a cool stream from outside.

With her mouth pressed to the hole, Morgan clung spread-eagled to the wall. Just when her screaming muscles threatened to betray her, she heard the creak of the door.

Come to collect her body, was he? Well, the Thraxian was in for a surprise. Holding her breath again, Morgan turned herself enough to observe the masked jailor's movements. She heard his gasp of surprise, and as he gazed uncomprehending into all four corners, she fell on him with a force that crumpled him to the ground. Before he had recovered, she was out of the cell.

Outside and once more shod, Morgan tossed a stone to distract the patrolling guard while she sped across the open perimeter into the forest that surrounded the prison.

Zig-zagging between the thickly-growing trees, she continued to run as fast as she could manage. Underbrush impeded her, but a worse obstacle was her own inadequate strength. Thraxis was a heavy planet, and for all Morgan's fitness training, the gravity tired her quickly. When her legs were about to give out, only fear and hope kept her going. She would be pursued, she knew, and soon, but if she could get out of the forest and show herself to witnesses be-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

fore Moab Alraydi or any of his priestly cohorts recaptured her, she would be safe.

As Morgan struggled on, fighting wrist-thick vines and her own leaden weight, the memories that she hadn't faced in the cell rose up and accused her. In every one of her Space Corps assignments—and there had been five in the last ten years—she'd managed to get herself into some kind of trouble. Granted, off-Earth postings in the Corps were usually no picnic, but if one stuck to the rules of one's host planet, a teacher should at least be able to avoid incurring a death sentence.

Not so Morgan Farraday, who always knew a little bit more than her employers, who always had to meddle. Morgan ground her teeth as she castigated herself. Thraxis had been no exception. If she ever got out of this one, she vowed, she'd never again violate a single dictum of the Corps. She'd blend into whatever bizarre culture she was sent to, teach her hosts only what they'd asked for, and never open her mouth about anything else.

If she got out of it. The tangle of branches and undergrowth ahead showed no signs of thinning. Morgan sighted with the sun to assure that she was headed in the right direction. She hadn't thought it was this far when they had brought her to the prison, but that had been along a road, in a grauf-drawn cart.

More painful memories returned. Recent ones. Morgan surrendered herself to them, punishing herself by reliving in detail the progression of her mistakes.

It had started the moment she had stepped off the shuttle. . . .

* * *

Thraxis, second planet of the Sigma Draconis system. Human-tolerable atmosphere and temperature, 1.45 gravity. Colonized 2270 by the Church of the New Fellowship. Refused to join Federated Planets.

Morgan summarized in her mind the paragraphs in the Corps manual as she walked across the landing field toward what she assumed was her greeting party. She felt as if she had suddenly gained sixty pounds, but that she had expected, as she had expected the ruddy sun in the pink-tinged sky and the towering purple mountains. The heartland of the New Fellowship colony was located in a vast, protected valley, and from the shuttle it had appeared prosperous, with clusters of buildings interspersed with cultivated fields and strips of forest. The half dozen men who awaited her were below Earth normal in stature, but wide shouldered and impressively muscular.

Morgan stretched out her hand. "Morgan Farraday. Is one of you Moab Alraydi? I believe I'm expected."

No one responded. The closest man pointedly turned from her, and the entire group moved away to greet another disembarking passenger, a fellow male Thraxian.

Morgan's cheeks burned. An even shorter figure, veiled and robed, beckoned from the terminal doorway, and Morgan dragged her duffel the remaining distance.

"You are the teacher?" This time Morgan received a proper greeting. She could see nothing but the eyes of the two welcoming women, they were so swathed in draperies, but their handclasps were warm and they appeared to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

be smiling. "Ruth Alraydi. Mirrim Alraydi. We are so happy . . . we meet so few off-worlders . . . but come, you must be tired from travel."

There would be no language difficulties, Morgan was relieved to note; the women's Terran, though oddly accented, was easily recognizable.

Morgan followed them through the terminal. Wives or daughters of Moab? she wondered. No, not wives, she answered herself. Or at least not both of them. The New Fellowship, an alliance of the most conservative elements from across all Earth religions, was strictly monogamous. Morgan had learned what she could of its tenets, though it wasn't easy since one of them was the doctrine of continuous revelation. The priestly class ruled both spiritually and temporally, by virtue of divine inspiration, and instant new laws arose with confusing frequency.

Their society is rife with taboos, the Corps manual had stated without explaining the nature of any of them. Judging from what she had seen so far, Morgan guessed that one concerned the showing of female flesh. She hoped she wouldn't be expected to conform.

At least, though, the women weren't kept sequestered. Mirrim motioned to a burly porter, who easily shouldered Morgan's duffel. He led the small procession to a groundcar parked in a bannered slot. The waiting chauffeur—a man—drove them out of the port traffic onto a relatively quiet road.

As they left the one and two story buildings behind them, beast-drawn carts and an occasional rider became more frequent than powered transports. "Graufs," said Ruth, pointing to the native animals. They were spotted and hairy, with broad backs and four short, stumpy legs.

In the relative privacy of the car, Mirrim and Ruth removed their veils. Mirrim, who Morgan had found out was indeed Moab's wife, had a deeply lined face and a shapeless, sagging figure that her robe could not entirely conceal. Her daughter, round-faced and plump, had a form that still maintained the firmness of youth, but Morgan wondered how long on Thraxis it would last. Childbearing, she guessed, would not be kind to women here.

The mother and daughter continued to display friendly curiosity. "You are not what we expected," Mirrim said. "We thought you would be very old."

"Why?" Morgan asked.

"To travel so far, alone . . . we couldn't believe it, at first. You should have seen Moab, when he learned the teacher was to be a woman." Mirrim and Ruth both stifled giggles.

Ruth recovered first. "Noah says he won't learn from you, but Father says he has to try. Poor Noah, reading must be so difficult. He has had so many teachers, and Father gets so angry."

"My husband thinks you must have a sure method," Mirrim said. "It is so important to him that Noah learn."

Morgan had wondered at the nature of the request from Thraxis. All the expense, and for her to teach a single student.

But it wasn't hers to question why; she'd found that out before. "How old is Noah?" she asked.

"Fourteen," Mirrim replied. "He could go into training for the priesthood, everyone expects it, except that . . . "

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

She looked down and pleated the material of her robe.

"He can't read," Morgan finished for her. She wanted to ask if Noah's intelligence was normal, but was afraid to risk offense.

"Noah doesn't want to be a priest." Ruth blurted before her mother hushed her.

"What does a boy that age know?" Mirrim said. "Anyway, it's not up to him. Moab Alraydi's son . . . of course he has to preserve the tradition."

Ruth lifted an eyebrow at Morgan, but said nothing.

"The eldest son has always followed his father," Mirrim continued. "It's been the family way, for three generations."

The car turned into a driveway bordered by trees with twisted limbs interlocking to form a hedge. At the top of a rise they stopped before a stone and wood house of impressive proportions. While the chauffeur opened one rear door for the two Thraxian women and solicitously helped them out, Morgan exited unaided from the other. A youth on graufback appeared from around an end of the house and watched them, but he kept at a distance.

Morgan followed Mirrim and Ruth into the house. In the entry, elaborate tapestry hangings draped the walls, and the floor was of a marblelike, highly polished stone. "We've given you a garden room," Mirrim said, leading the way through a long hall. She ushered Morgan into a spacious, comfortably furnished chamber that opened on to a green lawn sectioned by more low hedges.

A chime sounded. "It's dinner," Ruth said with a smile and a childish clap of her hands. "I was afraid they wouldn't wait. Come on, you can meet all the women. They'll be so—"

Mirrim waved her to silence. "The teacher will take her meals here." She shook her head when Ruth uttered a cry of disappointment. "I know, but your father thinks it best."

Ruth shrugged, and Morgan could not read her expression. If she harbored resentment, it was carefully hidden.

"When will I meet your husband?" Morgan asked of Mirrim. She had an uneasy feeling that it wouldn't be a pleasant interview; not with the increasing evidences that she was in the midst of a rigidly patriarchal society.

Mirrim looked surprised at the question. "He will let you know." She beckoned to Ruth, then turned back to Morgan. "You must excuse us now. Prem will bring you your dinner, and you have everything here you will need." She opened a door to show Morgan her own modern, brightly-tiled bathroom.

"Wait." Morgan was still concerned about the taboos, and it appeared she was to receive no orientation. "Is there anything I should know about your customs? I wouldn't want to offend anyone, through ignorance."

"Oh, you could never do that," Ruth said. "We live by the laws of all women. Surely you know them."

"Are you thinking of your blood time?" Mirrim asked. "We have a safe place to go. Perhaps tomorrow I can show you."

A rap at the door sent the two women scurrying out as a dark-bearded, robed man entered with a tray. He set it on a table and left, and Morgan ate a solitary meal. The food was plentiful—a thick

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

meat stew, vegetables, and a sweet dessert—and seasoned for tastes similar to hers. She would suffer no physical hardships on Thraxis, she thought. She might be a bit lonesome, if this reception was any indication, but after all she was here to do a job. And it shouldn't be a difficult one. On other assignments she had taught even non-humans to read Terran, so a single Thraxian boy, no matter how slow, shouldn't prove too great a problem.

The same servant, Prem, came in to clear away the food. "Master Alraydi is ready to see you now," he said.

He didn't appear to be asking for her permission, but nevertheless Morgan nodded. "Very well." She arose to follow him out.

He motioned her back. "He will come here."

It seemed, Morgan thought, that she wouldn't be welcome in other parts of the house. After Prem left, she tried the door. It was unlocked, which relieved her somewhat, but she still had the feeling that it wouldn't be politic to go exploring.

No matter, it was still early in the game. She settled herself at her desk to wait for her visitor.

Moab Alraydi was the usual short, stocky, almost grossly muscular Thraxian male. He was dressed in a tunic and trousers of a rich fabric, with a ribboned gold medallion around his neck and another fastened to a headband. He had the bearing of a man accustomed to command.

Morgan rose and offered a chair, but he ignored it. He said, "You have everything, I trust, for your comfort?"

Morgan nodded and remained standing, too. "I'm anxious to meet my student. I've brought plenty of teaching materials, and we can get started any time. What do you perceive as your son's difficulty? I'd like to see the results of any testing he's had done."

"All that is for you to do. I was assured that your Corps has the latest teaching techniques, and I've paid a small fortune for your services." He fixed Morgan with a piercing gaze. "I won't accept failure."

Morgan returned the stare. "I can't make promises, but if he has the intelligence—"

"Noah is an Alraydi."

Morgan saw that she would get no further help from him. "Then, when can I start?" she asked.

"Tomorrow." He named an hour. "He will come to you here, and the rest of the time, you would do well to remain here, too."

"You mean, in this room?"

"It would be safest. Thraxis has many dangers you do not know, and it would be awkward for us all if you were to meet with an accident."

"What kind of dangers? I'm trained in self-defense, and I've been on planets less civilized than this. I think I'd go crazy cooped up in here."

When Moab didn't respond, Morgan's ire rose. "Do you treat all your visitors like this? Would it be the same if I were a man?"

"Of course not," he said. "We weren't expecting a woman, and your presence presents many problems. It is necessary that you conform to our rules, both for your protection and ours."

"Just let me know what they are." She gestured around the room. "This is

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

very nice, but I can't stay in here for six months. Even Mirrim and Ruth—''

''They are to have as little contact with you as possible.''

Morgan stiffened, but said nothing.

Moab frowned and continued. ''We cherish our women, and they are well protected. I'm afraid you would be a disturbing influence. So if you insist on wandering about, it will not be in their company.'' He raised a hand to still any protest. ''We are a peaceful people who lead orderly lives based on the precepts of the New Fellowship. There is no dissent in our colony, no hunger and no crime. Everyone has his place and is content in it.''

Morgan hid her reaction. ''Your politics certainly aren't my concern. I just thought—a little sightseeing.''

''I will see that you are provided with a copy of our Book of Laws. But you are not, after all, here as a tourist. My son—''

''I'm aware of my responsibilities.'' Morgan knew that she shouldn't have crossed wills with him, but she'd be damned if she'd be treated like a second-class citizen. Or worse, like a prisoner. Moab inclined his head stiffly, and Morgan saw him to the door.

Prem arrived shortly with an enormous bound volume a foot thick. A computer occupied one end of Morgan's desk top, but apparently the Laws were too sacred for electronic recording.

Or perhaps Moab thought to discourage her with the reams of paper. Morgan studied the index first, and found regulations for every subject from ''animals, edible,'' to ''zymurgy.'' The mass of prohibitions was indeed daunting, and Morgan wondered how the Thraxians ever managed to stay within the law. She decided to concentrate on those that applied specifically to her sex, and turned to that section.

Women were not to read, write, watch trivee other than their own channel, appear in public unveiled, go out after dark, operate machinery or vehicles, handle any animals, lift any weight, other than a child, greater than ten pounds, keep to the caves during their blood times, and on and on for pages.

Medieval! Barbaric! Morgan closed the book with a slam. She had been on undeveloped planets where primitive conditions prevailed out of necessity, but this was a deliberate reversion. No wonder Moab Alraydi didn't want her talking to his wife and daughter!

Morgan reminded herself that she was bound by Corps rules not to interfere, tough as it would be. Stick to your assignment, she told herself. Don't think about the other.

She tried. No longer complaisant about teaching her single student, she now anticipated a challenge. And welcomed it. She unpacked her teaching file, selected the materials she would need for the next day and planned her first session. Mostly, it would be testing and getting acquainted. The boy would almost certainly share his father's prejudice, and that would make everything so much more difficult. . . .

Morgan finished her preparations by lamp light. She stretched, then slid open her terrace door, where pinpricks of stars glowed in the velvety blackness. The night sky of each new planet was always a fascinating study. What constellations, she wondered, would she see from Thraxis? She picked up her scope and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

walked out into the garden.

Women were not to go outside after dark. The prohibition came briefly to mind, but it was too ridiculous to be taken seriously. Besides, who could see her? The windows on either side of hers were black.

Morgan crossed the lawn and stood at the low wall that bounded it. Lost in the sky, she was unaware of her immediate surroundings until a disturbance at her feet brought her unpleasantly back to earth. It was too dark to see clearly, but her boots seemed to be covered with something writhing. When she bent over to investigate, a faint hissing sound caused her to straighten abruptly. She attempted to move, but her feet were held fast.

She pulled, first one leg and the other, to no avail. The hissing grew louder, and the dark, sticky mass seemed to be growing.

Morgan couldn't guess its chemistry, but it was certainly alive. Maybe her finger-needle would be effective. She extruded the slender weapon and pumped its load of poison into the wriggling obscenity.

It had no effect. She beat at the spongy mass with her telescope, close to panic. The hissing became a thin scream as the creature finally collapsed, allowing Morgan to pull free.

She left her boots and telescope outside her terrace door. Both were covered with a thick slime that burned when she inadvertently touched it. Shaken, she latched the door securely. What if she had been wearing sandals? What if she hadn't had the telescope? She shuddered and drew the drape. Whatever nocturnal heat-seekers were out there, she didn't want to even think about them.

Someone would have to clean her boots in the morning, and she supposed Moab would hear about her foolishness. He would only have to point to the book, and she would have no excuse. She took a long shower, rinsing away imaginary vestiges of caustic slime, and that night she slept badly.

In the morning sun, the garden looked peaceful and innocent. Morgan would have had difficulty believing her evening's misadventure, except for the vile-smelling greenish crust on her boots and telescope. When Prem came in with her breakfast tray, she asked if they could be cleaned.

He picked them up gingerly and shot her a shocked, disapproving look. "Didn't anyone—"

"Yes, I have the book," Morgan said. "But there are so many 'don'ts,' and they seem so strange to me."

"They are all necessary," Prem said.

Even keeping women illiterate? Morgan thought, but she didn't say it. Prem left, and she again ate a solitary meal. Afterwards, while awaiting Noah, she worked up her courage to stroll in the garden.

The grassy turf was firm, with no hint of what might be lurking under it. By the wall, where the creature had appeared, a patch of green crust was rapidly shriveling in the sun.

Beyond one of the low hedges that divided the expanse of lawn into semi-private areas, Morgan spied a woman and a child also enjoying the morning air. She waved, but the woman's only response was to pull the protesting child into the house.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

When Morgan returned inside, too, she found Noah waiting. As she had suspected, he proved to be the youth who had been watching when she had arrived. He was not prepossessing in appearance, despite the muscular development that seemed to be the heritage of Thraxian males, even one so young. His face was broad, with a low, overhanging brow that sheltered small, pale eyes. His mouth was set in a pout.

He sat stiffly opposite Morgan. "I can tell you're not happy about this tutoring," she said. "What would you rather be doing?"

He didn't answer.

"Riding?" she suggested. He had seemed at ease on his mount.

His eyes brightened, but for only a few seconds. "Let's get on with it," he said. He studied his watch. "Two hours, Dad said, and the time's already started."

Morgan sighed and spread her testing materials out on the desk. There would be no easily established rapport. An unwilling student, probably a not very bright one, and a father who expected miracles. Not exactly a plum assignment.

Noah spent little time on the written exercises. His reading skills, Morgan could tell without even tabulating the results, were barely at the primary level. He did better on the oral tests, though he seemed to have trouble concentrating. His intelligence, she guessed, would prove to be in the low range of normal. He *could* be taught to read, if he would only cooperate, but she had her doubts about priestly training.

They had another hour, and Noah was becoming increasingly restless. "We'll take a recess now," Morgan said. "Maybe you could show me around outside.

"Whatever is permitted, of course," she added in response to his expression of doubt. "Those buildings over there." She pointed, beyond the garden wall. "What are they for? And the fields I saw, driving from town. What sort of crops are growing there?"

Noah finally nodded and allowed himself to smile. "Sure, I'll show you. I don't know why not." He was on his feet and at the door as quickly as if released from prison.

Morgan wrapped herself in a concealing cloak. "Do I need a veil?" she asked.

"Nah. That's only if you go to town. You're fine." Noah stamped a foot impatiently.

They went out through a side door and took a graveled path that led to the outbuildings Morgan had seen. Barns and pens and fenced pastures held herds of animals. Most seemed to be varieties of graufs, but there were also smaller, piglike rooters with sharp tusks.

"Don't get too close," Noah warned as they approached the first pen, which was filled with quietly feeding graufs.

Morgan remembered the law concerning animals. "Don't worry, I won't touch any of them," she assured him. Privately, she wondered what could be the harm. As she leaned on the fence, none of the animals seemed disturbed by her presence. The prohibition was probably intended to keep women from riding, she thought. To keep them safely at home. She vented her opinion on the fence, aiming a sharp kick.

Noah misunderstood. "It's safe," he said. He showed Morgan several posts

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

which had been newly replaced. "I worked on that section myself."

"Do you like it?" Morgan asked. "Farm work, I mean?"

Noah hung his head. "Yeah. I wish . . . "

"Yes?" Morgan encouraged.

"Nothin'. Forget it." He kicked at the fence, too, his expression sullen.

Morgan tried a safer tack. "Tell me about all that." She motioned to the maze of pens. "Why are they all separated?"

Noah's face came back to life as he indicated which were the meat animals, which the mounts, the milkers, and the breeding stock. He proudly pointed out graufs that he had helped capture and break to the saddle. "That one, with the spotted face. You saw me riding him yesterday. I raised him myself, from a baby, and he won't let anyone else on him." He whistled, and the broad-backed animal lumbered to the fence. Noah held out his hand, and the creature slobbered over it.

Noah giggled. "He wants me to take him out for a ride. Maybe we could—" He stopped in embarrassment. "I keep forgetting. You're so . . . different, you don't seem much like a woman."

"It's OK. I guess I look like an oddball, all right." Morgan's slender frame towered a full head above that of the stocky youth. She felt the adaptation difference, too, in her aching muscles. The walk from the house had tired her more than she had anticipated, and she gave up the idea of going even farther, to inspect the fields. "We'd better get back to the lessons now," she said. "Maybe later, you could finish showing me around. Could we get a car?"

"No, I don't think so." He flushed. "Not me, anyway. I'll be busy."

She was pressing too hard, Morgan told herself. They walked back to the house in silence, and Noah proved unresponsive during the remainder of their session.

At least, she knew now what to expect. Which wasn't much, as long as Noah balked at the vocation his father intended for him. She would have to have a talk with Moab, she decided. If it was possible, and if the man could be objective.

She asked Prem, at lunch, and was told that his master was unavailable. "He's gone into the Sacred Forest," the servant said. His voice was tinged with awe. "There will be a new revelation soon."

"Sacred forest? What is it? And where?"

Prem gestured vaguely to the north. "It is a place of great power to the priests. Where the Spirit of the Creator speaks to them." He raised both hands respectfully as he referred to the New Fellowship divine force.

Morgan wondered what new law would be forthcoming. She had an uneasy feeling that it might have something to do with her. "How does a priest know when to expect a revelation? I mean, when he should go to this forest?" She tried not to sound overly skeptical.

Nevertheless, Prem straightened defensively. "That is his calling."

Warned by an icy glare, Morgan choked off further questions.

"An off-worlder could not hope to understand," Prem said stiffly. "When our grandfathers settled on Thraxis, they would have perished without the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

priests." He pointed through the terrace doors, into the garden. "You met one of the surprises they found, and there were many others. It was revealed to the priests how we could live here safely, and they have continued to protect us. We do not question the laws or how they are given."

"I see," Morgan said. And she did see, more than he might think. She saw how the hundreds of taboos might have originated out of necessity in a new colony and been multiplied by a ruling coterie until they regulated every aspect of life. She saw how harsh conditions and natural dangers could have led to a suffocating "protection" of the colony's child-bearers, especially when reinforced by the teachings of fundamentalist, pre-space religions. Yes, she understood, and blessed her good fortune to be here only temporarily.

"I will inform you when the master returns," Prem said. "He left instructions that Mistress Mirrim was to show you the caves." His face wrinkled into a moue of distaste. "If you are ready, I'll send her to you now."

"Yes, please do." Another ancient prejudice, Morgan thought. Women's menses as unclean. But however she felt about Prem's squeamishness, she welcomed the opportunity to see Mirrim again.

Mirrim, when she came, appeared ill at ease. She greeted Morgan with perfunctory politeness and hurried her through a basement passage and down more stairs that led to a branching tunnel. The route they followed sloped downward until it ended in a rock-walled, dimly-lit cavern.

"This is the cave the women of our household use," Mirrim said. Some concessions had been made to comfort—rugs and wall hangings, a row of cots and a lumpy-looking couch—but to Morgan it was still a claustrophobic prison.

The young woman who was reclining on the couch looked up at them hopefully. "Mirrim! I'm dying for company. Is it your time? And is this—"

"Yes, it is," Mirrim said. "But we can't stay. I'm just showing her where to come." She pulled at Morgan's arm. "Please. I must get back."

Morgan followed her willingly; she had always hated being underground. "What about food?" she asked as they struggled up the incline. "Do you really stay there continually for all the days of your period?"

"Of course," Mirrim replied. "As long as there is blood. And yes, we have supplies. Everything we need." Where the tunnel branched, she pointed into another passage. "There are more caves that way. When it's your time, you will have a cave of your own. And don't worry, it will be made comfortable. You will see."

Maybe, Morgan thought. She didn't relish the prospect at all. With company it might be bearable, but alone for five days in a dank cave. . . .

Mirrim left her at the top of the stairs, mumbling excuses about being too busy to visit.

Morgan knew from the Book that Thraxian women had few duties other than bearing and caring for children. But Mirrim had obviously been warned against her, and Thraxian women were also obedient.

Morgan returned to her room and pre-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pared for her afternoon session with Noah. It went poorly, with the boy stumbling over phonetics while his mind was elsewhere. She tried to interest him in a variety of skill-building materials, but to no avail. He sat, stubborn and sullen, for two hours, escaping the second his time was up.

Lessons the next day went no better. Morgan continued to drill Noah on phonetics, and she also tried color contrasts, windows, tactile stimulation, and several different visual and audio trivee spools. He shut his mind to all of it. When Prem came to tell her that Moab had returned, Morgan asked for an immediate interview.

Prem switched on the trivee. "You had better see this first."

On the screen, Moab, clad in priestly vestments, stood on a raised platform facing a worshipful crowd. After two other priests led the audience in a series of chants and responses, Moab came forward with his revelation.

No more off-world women were to be allowed on Thraxis. The Creator saw a danger to their way of life, and He had spoken clearly.

"Let it be inscribed in the Book of Laws," the priests chanted.

"Let it be known to all," the people responded.

The filmed vid ran again, beginning with Moab's emergence from the forest and his ritual greeting by the waiting crowd. "OK, I've seen it," Morgan acknowledged, shouting to be heard over the chanting. She motioned for Prem to turn down the sound. "How does this new law affect me?" she asked.

Prem switched off the set. "You are here on sufferance, and you must be careful. That is the master's message to you. He does not wish to see you."

"It concerns his son."

"He will hear a report in three weeks."

Morgan sighed. What could she have said, anyway, to change Moab's expectations? She'd do the best she could with Noah, and the rest was out of her hands.

The first two weeks passed slowly, with Noah struggling through a second grade reader and Morgan becoming increasingly restive with her virtual isolation. She asked for and grudgingly received the use of a car and driver and saw something of the nearby countryside through a layer of glass. Beyond the borders of the vast Alraydi estate, smaller farms were still being carved out of the forests, and factory towns surrounded lumber mills. One afternoon she went as far as the mountains to see mines and smelters and another sprawling town. The people she observed on her excursions appeared clean and healthy, and their homes and yards were well tended, but hardly anyone smiled. Most of the women had bodies as shapeless as Mirrim's—from high gravity childbearing, Morgan guessed, but she saw surprisingly few children. Birthrate statistics were not available to her, but she suspected that it was a serious problem on Thraxis. Another reason, she conjectured, for what Moab had called the "cherishing and protection" of their women.

She didn't see Mirrim again at all, and she encountered Ruth only once, briefly, in the garden. She was to be married soon, the young woman confided, but she didn't look particularly happy. Someone called her inside before she

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could tell Morgan any details.

If there were wedding preparations, Morgan did not hear them. Her room was in an isolated wing of the house, and when she was home she obeyed Moab's instructions and kept to it. Her closed-car excursions and the recesses she took with Noah were her only escape, and when her monthly menses began she didn't feel like giving up even that limited freedom to be shut up in a cave.

Besides, Noah would lose ground without her. That particular archaic rule, she decided, could be safely ignored. No one would need to know of her condition, and if, after a month, anyone should be curious about her lack of a cycle, she would say she was on a hormonal block.

Accordingly, Morgan met Noah as usual for his morning lesson. After the first hour, also according to their custom, they recessed to visit the animals.

In the closest pen, the graufs milled and bleated as Morgan approached. "They seem more restless than usual," she observed as she leaned on the fence. "Don't you think so?"

"Yes." Noah looked worried. "Something is disturbing them." He whistled to his favorite mount, and the creature came to him with an odd, jerking gait, blowing through its nose.

"What's the matter, fella?" Noah crooned, reaching out his hand.

The grauf turned its snout to Morgan and sniffed, then backed away with an earsplitting bellow. It rose on its hind legs and pawed the air with its front ones, then galloped stiff-legged around the pen. In seconds the other graufs followed suit, and the pen became a moving, bellowing mass of out-of-control animals. As the far end of the pen went down under the onslaught, Noah ran, shouting and waving his arms, to stop the stampede.

"Come back!" Morgan screamed, but she couldn't hear her own voice over the uproar. One by one the animals in the other pens became infected, too, and more fences collapsed as herds of graufs streamed toward the mountains. Morgan remained safe behind her section of fence, but she watched with horror as Noah went down under a pair of thundering hooves.

At least Noah hadn't been critically injured, Morgan thought as she fought her way through the forest. They had told her that much at the trial, after she had spent her five days of menses in a cave that was in actuality a prison. They had found and removed her finger-needle, but where could she have gone, even if she had been able to escape?

It hadn't been a trial, in fact, but a sentencing, for there was no question of her guilt. She had knowingly violated one of the strongest taboos, causing physical injury to the son of a priest and the loss of most of his herd. Space Corps teachers had no diplomatic immunity, and Morgan's advocate could only plead for a painless death.

Morgan continued to berate herself as she pushed through vines and stumbled over rotting logs. If only she hadn't been such a know-it-all. She had certainly been warned, though she suspected that Moab Alraydi had hoped —maybe expected—her to misstep in some forbidden way.

Well, he had gotten his wish. And he would be after her now, if she had read

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

his face correctly at the sentencing. It had reflected bitter anger, and then the satisfaction of revenge.

No, he wasn't one to be thwarted. Morgan pulled herself over a fallen tree trunk and leaned for a moment, panting, against it. She had to rest. Every abused muscle throbbed its protest against further exertion, but she didn't dare stop for long. She couldn't, until she was safely out of the forest.

By Thraxian law, Morgan's jailer had told her, if a convicted felon survived his or her alloted punishment, it meant the judgment had been faulty. It had happened just once to the jailer's knowledge. A man convicted of grauf rustling, thrown into a river with bound hands and feet, had somehow escaped drowning. He was now a respected shopkeeper.

Morgan struggled on, until the going gradually became easier. The trees were larger, with high, spreading branches that intertwined to form a cathedral-like roof. There was no underbrush, only a spongy, mossy floor. The light was dim and green, and in places it flickered into imagined shapes. Overhead, leaves whispered in a wind that did not penetrate the canopy.

Morgan looked about her in wonder. It was a place for reflection. A place for . . . could it be . . . revelation?

The beauty of Morgan's surroundings faded with the thought. If she had stumbled into the Sacred Woods, she realized, she was in worse trouble than before. Profaning such a sanctuary—there would almost certainly be no painless death this time.

She started to retrace her steps, but the prospect of meeting her pursuers dissuaded her. There could be no hiding in the forest either, not for long. She vacillated: which way to go?

She opted for the unknown danger and proceeded straight ahead.

Walking was easy now, with nothing to impede her. She scarcely looked down, and when she tripped over a line stretched between two trees, she thought at first it was a trap. She got up unharmed, however, and the line once more stretched taut. It snaked up the tree, she saw, and disappeared into the canopy. Bells pealed, not far off, but no one came to apprehend her.

She continued on. After a time the trees thinned and the light became brighter. So bright that Morgan closed her eyes when she stepped into full sunlight. She blinked in surprise when she opened them and saw the waiting crowd, the familiar-looking platform and the robed priests.

There was a long moment of shocked silence, then a rising buzz of whispers.

"It is a woman."

"The foreign woman; the off-worlder. The one who was condemned."

"She survived the punishment."

"She has come out of the Sacred Forest and hasn't been smitten. What can it mean but a new kind of revelation?"

The voices rose. On the platform, the priests huddled in conference.

"Rev-el-a-tion!" the crowd chanted, over and over. Like a moving ocean, they advanced upon Morgan and swept her before them up to the platform.

She had no choice but to mount the stairs. Behind her, the chanting grew more insistent. The priests raised their arms, and the voices swelled into a mighty roar and then subsided.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In the silence, Morgan looked to the nearest priest for guidance. "Tell them you have nothing to say," he whispered. "That your being here is an accident. They will accept it."

A woman in the front ranks of the crowd gazed upward with hopeful eyes. Somehow, she reminded Morgan of Ruth. Not many women were present, Morgan saw, and those few were swathed and wrapped and guarded like so many prizes.

"You needn't say anything," a second priest murmured. "I'll speak for you. It will be best." He started to step forward.

"No," Morgan said. Why should she let them control her? If she was entitled to a revelation, it was an opportunity she couldn't throw away. And it wouldn't be interfering; it was strictly within the rules of Thraxian law.

She wished she had more time. There were so many pronouncements she could make, she didn't know which to choose. Better not make it too unacceptable, she cautioned herself, or the priests would find some way to negate it. What could it be? A message that a teacher, a female, might be expected to have received.

The woman's pleading eyes held her. The mind, Morgan thought. The written word. Yes, she had her revelation.

Morgan walked to the edge of the platform. "It came to me clearly," she said, and it was the truth. "The new Law: women are to be allowed to read."

She looked back at the priests; it was their turn to respond.

Finally it came, though a bit raggedly. "Let it be inscribed in the Book of Laws."

From the crowd, the response was stronger. "Let it be known to all."

As she left the platform, someone handed Morgan a cloak and a veil. The new revelation would cause no overnight changes, she thought, but they would certainly come. She spied Moab Alraydi at the edge of the crowd. He had apparently missed the ceremony—perhaps searching for an escaped prisoner. She wondered if she still had a job with him. Probably not, she guessed, and she didn't much care. This was one time she wouldn't mind being dismissed as a failure. Noah would be better off if his father gave up trying to force him into a mold. He would be happy starting a new herd for the family, and Ruth . . .

Morgan began to scheme. She'd be leaving soon, and a farewell gift would be appropriate. Now, which bookspool would it be? Something to give a young woman a few ideas.

You're doing it again, reproved the tiny voice of Morgan's conscience. *You're meddling.*

Morgan argued the voice down. A present was only common courtesy. Who could fault her? She returned to her plan, reviewing the spools in her file. Which one? Nothing heavy. Nothing overtly political, that might be censored.

Of course—she had it! A classic, seemingly harmless twentieth-century tale featuring the adventures of a space-faring princess. Absolutely guaranteed to set the women of Thraxis to dreaming. She ought to know; hadn't it worked for her? ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

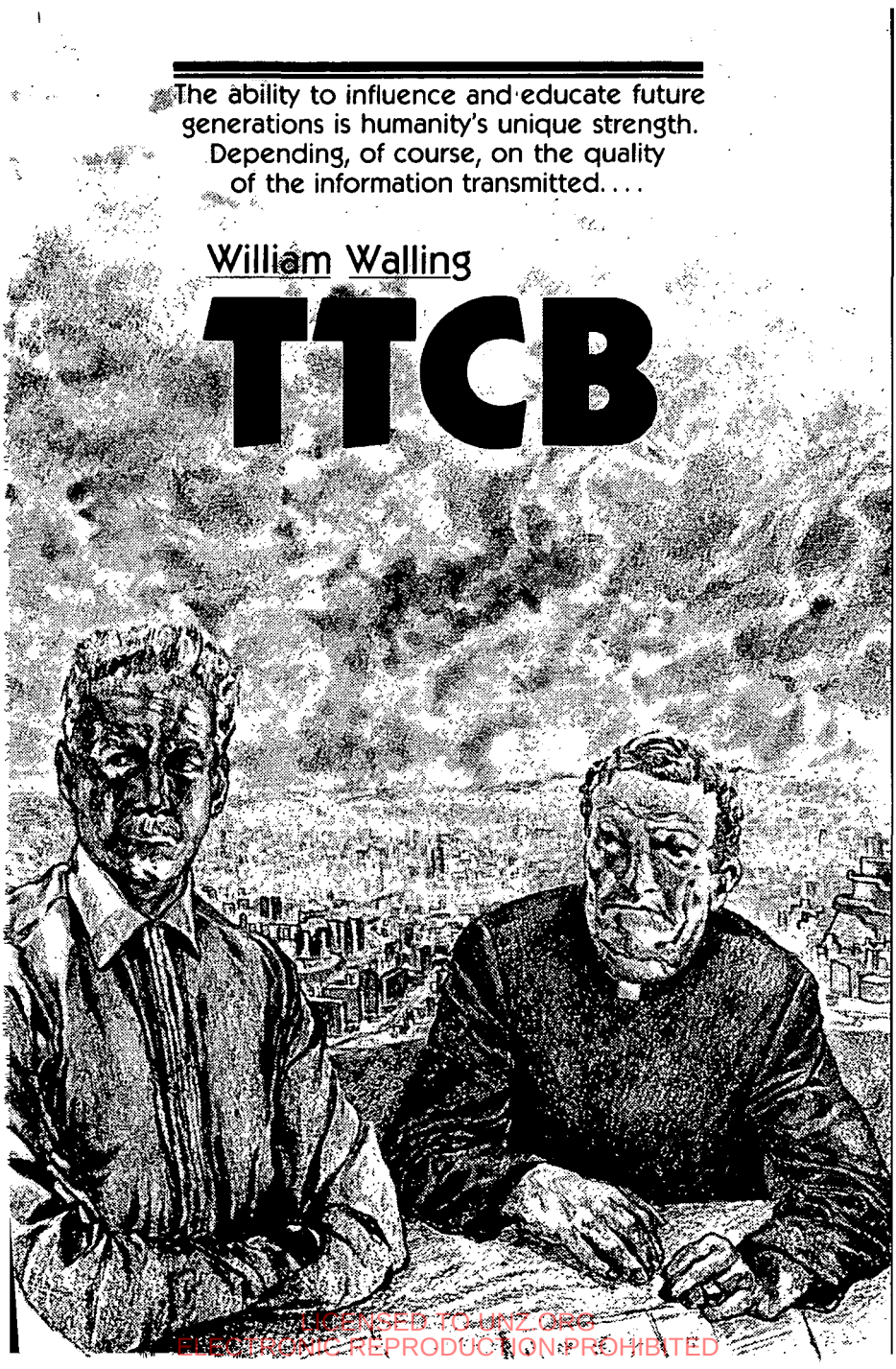
Anthony Bari

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The ability to influence and educate future generations is humanity's unique strength. Depending, of course, on the quality of the information transmitted. . . .

William Walling

TTCB



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A buzz of conversation underscored the air of expectancy that pervaded an executive conference chamber high in the United Nations Tower. The filmed floor-to-ceiling glasswall commanded a view of smog-blighted Queens, where the hulk of a gargantuan, multi-tiered arcology complex dominated the murky skyline. One hundred and ninety-eight stories below, feeble midwinter sunlight transformed the East River's open sewer into a swath of molten metal.

His outsized workingman's hands folded complaisantly, UN Department of Environment & Population patriarch-in-residence Nils Christiansen reposed at the head of the conference table. Behind him on the pseudo-birchwood paneling, a stylized UNDEP logo—the blue-and-silver globe of Earth, superimposed with a set of balanced scales and the motto *Terra Stabilita*—did little to enhance the room's functional austerity.

Beetling salt-and-pepper brows shrouded Director Christiansen's fixed gaze, but his thousand-yard stare deceived neither his colleagues nor the handful of lesser minions in attendance. Conventional wisdom had it that *nothing* escaped the Great Dane's folded hands and searching mind.

Marqueteried entry doors slid apart, and someone muttered, "Cometh the iceman." The desultory chatter died on cue as a powered geriatric chair bearing the wasted figure of UNDEP Commissioner emeritus Bennett Rook glided across the threshold.

Exophthalmic hazel eyes, set widely apart in a seamed, age-raddled countenance, swept the meeting place as if plumbing the rationale of its existence. "Sincere apologies," greeted the latecomer, his husky baritone conveying neither remorse nor sincerity. "The videoconference dragged on longer than expected."

Christiansen nodded amiably. "Then," he said, "we'll be forced to bend a trifle and grant forgiveness." Rising, a blond, bearlike figure, he leaned forward, fingers splayed on the tabletop, and addressed the gathering at large. "Ladies and gentlemen, a word of reminder. This plenary session will be strictly informal. Take notes if you wish, but the secretary has been advised to forgo official recordkeeping. We will also dispense with the usual parliamentary amenities. . . ."

Noting a flicker of annoyance that crossed the angular features of a priest seated nearby, the director paused. "Chaplain," he inquired, "does my cavalier method of getting under weigh cause some form of heartburn?"

The Right Reverend Monsignor Theodor Velk, S.J., seemed reluctant to meet Christiansen's level gaze. "Not . . . really, Mr. Director. I'd prepared a brief invocation to Saint Victoria, but . . . another time, perhaps."

The man seated in the geriatric chair cocked his head, regarding Velk with steadfast intensity. "Monsignor," he said, measuring his words, "UNDEP stands in dire need of every smidgen of help it can get. From any quarter. But will you take offense if I refresh your memory on one point? During her lifetime, your devout Romish brethren never missed an opportunity to vilify dear departed Victoria Maria-Luisa Ortega de Duiño. Not once but many times, *l'Osservatore Romano* libeled her as the 'Matriarch of Death.' Her

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

faith was questioned ad nauseum by the church she adored. In fact, excommunication was threatened on at least two occasions known to me."

The priest stiffened. "What purpose will be served," he objected, "by reopening wounds long since hea—?"

"Yet when at last she was taken from us," pursued Rook in the same droll monotone, "the Vatican's Father and Teacher sponsored canonization more or less before the memorial service had concluded. Bitter irony, I would say, for *you* to presume sending up invocatory prayers to *her*."

Would he take offense? He would indeed! Smarting at the affront, the prelate choked back the stern rebuttal on the tip of his tongue. The acerbic old fossil's monstrous talent for sarcasm made him yearn for bygone days when godless arrogance could be expunged at the stake. Rook's dim view of Catholicism—of theology and theologians in general, for that matter—was common knowledge. But going out of his way to rebuke someone of *his* stature before an assemblage of colleagues and co-workers was an abuse the lawyer in Monsignor Velk simply could not ignore.

"I fear that His Holiness," he intoned, doing his best to squelch the burr of annoyance marring his diction, "must at times perform duties in his official capacity which he abhors as an individual. Seven decades of the nine God generously granted Saint Victoria were spent devoted to what she considered a selfless cause, albeit a cause severely frowned upon by the church in her own time. And privately by I myself, I might add."

Rook grudged a wafer-thin smile. "I fail to see," he drawled, "how anyone could be more aware of it than I."

The calmly stated riposte found its mark. Determined to return torment for torment, nettling comment for nettling comment, Velk adopted a courtroom manner. He decided to play to the audience he knew was hanging on every word. "Mr. Commissioner, what I chose to make reference to was—"

"—the late Madame Duiño's pagan, bloodthirsty Triage Committee chairmanship," finished Rook.

The priest's dark eyes glistened moistly. "Isn't putting words in my mouth rather self-serving? Correct me if I'm wrong, but do you deny being the principal instrument of Saint Victoria's premature retirement?"

Rook's surprise seemed genuine. "Premature . . .? At age eighty-nine?"

"Yes, yes; she lived to a great age, to be sure. But rumors persist. Some of the less scurrilous tales cannot be dismissed in light of. . . . Oh, you know perfectly well what I mean."

"Monsignor, I wonder if *you* know perfectly well what you mean."

"That," accused Velk, "is precisely the sort of obfuscating remark one learns to expect from you. Tell us, please: didn't you serve under Saint Victoria as senior Triage Committee member? And while serving, didn't you derive enormous satisfaction from sitting in Olympian judgment over millions upon millions of poor, defenseless fellow human beings? Then, to top it off, didn't you create limitless internal controversy before being, um . . . shall we say 'relieved' of your post?"

"*Mea culpa*," admitted Rook with

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

maddening nonchalance. "Withal, saith the deponent, your cross-examination doth sadly limp, Counselor. Why not call a spade a spade? 'Kicked out' would have been a much more appropriate term."

"Kicked *out*, then."

"Now you have it."

The priest stamped his foot. "Really, Mr. Commissioner! UNDEP's Triage Committee actively condemned entire populations to death by starvation. Anyone possessing normal human emotions would blush with shame to have taken part in usurping God's role."

"I'm not given to blushing," said Rook without hesitation.

"My personal view," announced the monsignor self-righteously, "is that global triage was, and is, a purely satanic concept. I imagine participation in such an inhuman endeavor will surely condemn each and every committee member, past and present, to everlasting fire. You, sir, are quite likely to burn forever in company with Tamerlane, Hitler, Pol Pot, Stalin, Gengis Khan, and numerous other fiends."

Rook clicked his tongue. "My, my! An elite group. Including the saintly Madame Duiño, I suppose?"

Velk drew back, looking painfully disconcerted. "I . . . fear so. Saint Victoria did receive absolution, but even that may do little to ameliorate crimes against humanity." The prelate sniffed disdainfully. "In any event, I'm told her triage ethic was a great deal less predatory than yours."

"An open secret," admitted Rook. "Madame Duiño and I clashed often over professional differences. You see, early on I came to realize her triage philosophy was too soft, far too lenient."

The churchman blanched. "*Lenient.* The term is hardly appropriate when speaking of *genocide.*"

"In the usual sense, no." Rook shrugged. "Unfortunately, I was never able to convince Herself that a blind spot existed. My long-silent cry in the wilderness seems even more valid now, mired as we are in a waking nightmare."

"*Your* grisly assessment of triage was of course perfectly *correct,*" retorted Velk heatedly. "Mr. Commissioner, you strike me as the sort of individual who would take exquisite pleasure in pouring water on a drowning man."

"No one could have said it better, Monsignor."

"Insufferable arrogance!" The priest grew thick-tongued. "In accord with your remarkable gift for avoiding the issue, you ignore one salient fact. Today's global population is at last stable. The need for UNDEP's Triage Committee—conceding for the sake of argument a need ever existed—has passed."

"Stable, umm-m-m. . . ." Rook pretended to cogitate. "Monsignor, I stand corrected. With a little help from its friends—raging epidemics, a plethora of natural disasters, and a few remaining odd-lot triage judgments—today's birthrate and deathrate are statistically equal. Our Mecca of salvation, zero population growth, has been achieved. ZPG! Three hosannas and a *hallelujah!*"

"Well," said the priest triumphantly, "flippant or not, it amazes me to hear you admit it."

* * *

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Rook's grimace suggested tolerance for the naive put-down of a child. "The problem has always been people," he said, "not the environment per se. For nearly a century we've squandered our essence treating the symptoms while the disease ran unchecked. Ask yourself this: has our hideously swollen population stabilized at anything resembling a utopian plateau? I think not."

"Now, just one mo—"

"ZPG," continued the other relentlessly, "arrived at a count of give-or-take thirteen billions, most of whom—if damned fortunate—survive at the bare subsistence level. And *if* they manage to live long enough, prosper sufficiently, to elude the spot checks leading to residual triage judgments."

"In other words," said Velk hotly, "you still maintain the correctness of *your* view?"

"I do. Though in fairness, saith Prophet Rook, the Janus head of hindsight doth swing about, and hindsight hath twenty-twenty vision. Archaic language aside, that is not a Biblical aphorism, Monsignor."

The priest was practically beside himself. "I'm *distantly* acquainted with Holy Scripture, sir. Tell us: as a former Triage Committee official, do you hold yourself blameless for the part you played in the wanton murder of millions?"

Rook sighed the special, long-suffering sigh he reserved for dealing with clergymen. "Blame," he said, "is for God and small children."

"How dare you even *mention* the Almighty!"

"*Ad majorem Dei gloriam*, Monsignor. It's because I consider Him an extremely broad-minded individual."

"Individ. . . ! Someday," countered Velk, a tremor spoiling his lawyerly enunciation, "you will learn how dreadfully wrong you are. On *all* counts."

Rook's fleet, infuriating smile washed over his antagonist. "Spoken like a true Jesuit. Someday quite soon, I imagine." Straightening in the geriatric chair, the commissioner's voice dropped one full register. "Yet why do I feel a need to justify myself *or* my actions?

"Oh, well! Madame Duiño repeatedly rubbed my nose in the fact that triage judgments have *never* constituted premeditated mass murder. Just as each designated military or civilian triage medic learns to sort the victims of a disaster, we leaned over backward to continually update the classification of those who could be saved only by prompt treatment, those guaranteed to survive sans treatment, and those who would not, *could* not survive despite every conceivable form of treatment, thereby shortening their suffering."

"An abomination!"

"No, Monsignor. A necessity. Triage has always been a concession to the inevitable—an extremely distasteful, last-ditch attempt to reduce our numbers to something the planet could once again tolerate. Tragically, we failed to do so. And it cannot.

"As for 'blame,' " said Rook, "why not place the onus where it belongs? Victoria Duiño, a brilliant physician given to intense dedication to the cause she believed in with all her heart and soul, became a worldwide pariah because of irresponsible media sensationalism during a semi-enlightened era,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and because of the totally benighted Catholic hierarchy of that era. She was canonized for political reasons which had nothing whatsoever to do with her life-long struggle for the betterment of mankind."

Rook's parting salvo proved too much for the chaplain. Flushed and visibly agitated, he glared down his nose at his aged adversary, then turned beseeching eyes toward UNDEP's director.

Throughout the heated exchange, Nils Christiansen had been patiently massaging a hangnail. His hearty chuckle was intended to make light of the verbal fireworks, but it rumbled falsely. "Gentlemen," he said, "the most callous, cold-blooded person who has ever engaged in our thankless profession would think twice before impugning Madame Duiño's sainthood.

"Which is neither here nor there. We've come together this morning to learn what new strategy may evolve from Commissioner Rook's recently concluded study, not to debate a non-germane issue. If blame we must, let's lay it at the feet of everyone's favorite scapegoat, Those Twentieth-Century Bastards, and allow Saint Victoria to rest in peace."

"Amen!" someone shouted. "TTCB."

A chorus of disgruntled approval accompanied the echoing cries of, "TTCB! Hear, hear!"

The director's arctic stare quickly silenced the murmurs of concurrence rattling back and forth. "Bennett," he said after a decent interval, "the floor is yours."

Rook shifted mental gears. He panned the conference chamber as though renewing acquaintance with every man and woman seated there. "A gem of classical wisdom," he began, "tells us none love the messenger who brings bad news. Since I neither expect, require, nor deserve your love, so be it.

"In order to prevent what little remains of the sky from falling, I plan to put before you several innovative measures whose adoption I urge in the strongest possible terms. Before I do so, however, a few brush strokes of perspective. I realize all of you will be achingly familiar with my woeful tale. Old news or not, I beg your indulgence. Please listen to my capsulized account of the Great Mistake, the 'bandwagon' syndrome whose net result was TTCB's recipe for putting all our eggs in one basket, then trashing the basket. It will be a short guided tour of the primrose path first trod by those twentieth-century bastards in attempting to save the Earth by ruining the world. . . ."

A minor ground swell in the beginning, the save-the-environment crusade had swelled into a holy *jihad* as fervent and fever-pitched as any inspired by Muslim fanatics. When the first glimmerings appeared, doomsday messiahs had sprouted like mushrooms after a spring downpour. Prominent among the original cadre had been one James Hansen, director of NASA's Goddard Institute of Space Research.

Nearly a century earlier, Rook told them, during the dog days of 1988, with massive timber fires raging in Yellowstone National Park, a prolonged drought scourging Midwest croplands and livestock, and humid Washington's

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

midday temperature wobbling near the century mark, Hansen had delivered a stunning jeremiad before a congressional subcommittee.

It seemed NASA's scientific elite had convinced officialdom that a 99 percent probability of global warming was in the offing—in other words, a virtual certainty. Hansen had related how the greenhouse effect—the atmospheric carbon dioxide buildup thought to be responsible for transforming Planet Venus into an acid-bathed, densely blanketed inferno—would become the Brobdingnagian cross mankind and all earthly creatures were destined to bear.

The century-long combustion of coal, natural gas, and petroleum, coupled with runaway deforestation and the emission of methane, nitrous oxides, halons, and ozone-destroying chlorofluorocarbon compounds, had been designated as primary villains. Unfortunately, the global village's technological economy had grown healthy and wealthy—if not conspicuously wise—by feeding itself on these selfsame fossil fuels and contaminants.

Battle lines had been drawn. The caveat had stated that unless each national government could be sold on the "incontrovertible" fact that monumental behavior and lifestyle changes were mandatory, the planet's inhabitants would surely wither and die, smothered in a hothouse sired by civilization's exhalations and effluvia, and born of the *coup de grâce* administered by collective human selfishness.

Over a period of decades, according to the stern prediction, global temperatures would rise inexorably. The ice caps would melt and the seas would overflow their shores, inundating low-lying plains in Bangladesh and the Netherlands, drowning the Maldives and other scattered islands, archipelagos, entire coastal littorals. Catastrophic drought would fling wide the door to thirst, famine, pestilence, social and economic upheaval of a magnitude never before seen, and would eventually terminate—with a whimper, not a bang—in mass extinctions on the scale of the gigantic reptiles who had flourished for eons, only to vanish overnight as Mother Earth tolls time.

More to the point, the coming demise of *our* species had been foreseen.

Controversy had resounded within the ivied halls of academe, the Spartan corridors of research institutions, the windowless hermitages of government-sponsored think tanks and by-the-numbers scientific laboratories. Cooler heads had argued in vain that extrapolating from such flimsy "knowns" could only lead to faulty conclusions, their reasoning being that nineteenth-century climatological records were error-prone, woefully incomplete; that by no stretch of the imagination did proof positive exist for extravagant claims of a killer warming trend; that a "reasonable" increase in atmospheric carbon dioxide would stimulate plant growth, yielding more bountiful crops; that the peoples of Siberia and similar regions would welcome a warmer climate; and—most startling of all—that instead of beginning to melt, the polar ice caps were evidencing minor *growth*.

Studies and empirical experiments had attempted to once and for all prove or disprove the contention that an early phase of the greenhouse phenomenon

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was being witnessed. The US Environmental Protection Agency had instituted its Global Climate Change Program, inventorying the emissions from natural versus human-induced biomass combustion, then modeling the resulting mass and energy biosphere-atmosphere transfers and exchanges. This study had itself been the subject of numerous succeeding studies, each less revelatory and more confusing than the preceding.

Scientific logic had dictated that the planet's heat sink—the oceans—would provide the most valid clues. Layering and segmenting the global biosphere and atmosphere in a quest for significant patterns, the US National Oceanic & Atmospheric Administration had run innumerable, fantastically complex general circulation models requiring exhaustive supercomputer time. To little avail.

Sounding devices, submerged in near-antarctic waters, had been designed to emit sonic pings of identical frequency and amplitude for pickup by subsurface receivers spotted throughout southern and northern hemisphere waters. Sound waves propagate less well in a tenuous fluid medium like air than a denser one like water; the warmer the water, the more rapidly audio waves travel from source to destination. Excruciatingly exact time-lapse measurements had been made. Despite meticulous attention to detail, the only conclusion drawn from these extensive experiments had been conclusively inconclusive.

A series of six sophisticated Earth Observing Satellites had been orbited around the turn of the century. The EOS birds had returned googols of data, none of it—alas!—leading to anything approaching a definitive answer.

The doom criers were not to be stilled. Nor the media.

As always, negative overload had ruled the airwaves.

News of a looming apocalypse had generated sensational tabloid bannerlines, while word of its cancellation would have earned three or four lines on page nine of the trivia section. Video scare specials had been aired, mesmerizing the viewing public with "in-depth" coverage of the impending disaster. Ad agency executives, the monied sponsors who kept them afloat, and Nielsen-happy television network bigwigs had likened the resulting superlative ratings to manna from Heaven.

Gaggles of grant-seeking academics, vote-seeking politicians, and attention-hungry entertainment celebrities had appeared on radio and video talk shows. The talking heads had accumulated gratifying quantities of votes, research grants, and additional notoriety, plus scads of ego-boosting praise for the selfless patriotism they had exhibited in holding back from the general public no bad tidings of any kind or stripe whatsoever.

When America's major political figures clambered aboard, the greenhouse bandwagon had turned into a runaway.

Meanwhile, the obverse of doomsday—planet-saving—had reverberated like a great tonic chord in the politically fertile imaginations of numerous government officials. One such, US Senator Albert Gore, Jr., had lost no time advocating mandatory 20 percent reductions in CO_2, et al, emissions, with the stiffest penalties possible under the law

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for noncompliance, and a pledge of more drastic environmental measures to come. Petitions calling for an instantaneous halt to the clearing of land in the world's terminally ill rainforests had been circulated by ephemeral Earth-saving cliques whose militant rallying cries made Greenpeace and the Sierra Club sound like arrant wastrels.

"Wonderful!" everyone had cried. "How can we make it all come true?"

Just as warfare is considered too important to leave in the hands of the professional military, the Bureaucracy had decided Earth-saving far too vital to leave in the hands of the scientific community, whose dedicated professionals might possibly by chance happen to possess an inkling of the synergistic nature peculiar to ecological systems, and who might also possibly by chance tend to give only token credence to the iceberg's tip, concentrating instead upon what lay beneath.

After endless consultations with astute legal eagles and the high-ranking judiciary, the Bureaucracy had put its Hydra-heads together and arrived at an ideally bureaucratic solution to the knotty problem: iron-handed, rigidly regulated and enforced federal controls, with suffocating penalties to be invoked for infractions and noncompliance. In most cases, mere months had been required to introduce and pass draconian legislation mandating a grievously substandard life for each citizen of America, where 5 percent of the world's population consumed over 30 percent of the world's available resources.

"Excellent!" Earth-savers and Bureaucracy had applauded in unison. "Excellent, at any rate, for us Americans," everyone had chimed. "But what about the rest of the world?"

What about the oil-rich Arab states to whom crude production and export was economic lifeblood? What about the disenfranchised, downtrodden and oppressed in locales like Ethiopia, Haiti, or South Africa? Or the billion-plus who had then marched in lockstep to the loud if dissonant Marxist drummer on Asia's mainland? Or down-and-outers throughout the so-called Third World?

What about the affluent Old World ignoramuses who might decline an invitation to revert to more primitive lifestyles involving costly, less efficient electric-powered automobiles, an absence of refrigerated air conditioning, super-stringent emission standards in the factories they owned, the legislated replacement of incandescent light bulbs with long-lasting if more expensive fluorescents, or the expense of installing "smart" polarizing windows in their homes and places of business to minimize heat loss in winter and reflect sunlight in summer, et al, et cetera, and so forth, and so on?

By means of deft, behind-the-scenes geopolitical maneuvering and manipulation, the least likely organization imaginable—a select sewing-circle of international debate called the United Nations Organization—had mysteriously acquired muscle and teeth. Shrouded in even deeper mystery, the manipulators had suddenly become the manipulated. The UN's newly resolute Security Council leadership, cashing in on available ex-servicemen demobilized by the hundreds of thousands in the wake of the defunct Cold War and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

winding-down Mideast Conflict, had given birth to the nucleus of an International Earthkeeping Force comprised of nationals of all races, colors, and creeds. This redeployment of ex-military manpower had self-replicated into legions of IEF shock troops stationed on standby in strategic corners of the globe, prepared at instant notice to put down by force of arms any nationalistic military aggression, political revolution, anti-triage insurrection, or violation of environmental standards that might come down the pike.

And as an adjunct to the IEF—more an afterthought than something preplanned—UNDEP had been organized as a major platform of the UN's infrastructure: an agency chartered to react to directives from the UN Security Council cum IEF quasi-government for the drafting, passage, and amendment of environmental legislation, plus dynamic population control via its never-to-be-sufficiently-reviled Triage Committee.

In essence, Rook explained, the present day Security Council amounted to a "benign" pseudo-military autocracy whose authority and benignity were continually questioned and undermined. Clumsy and prone to abuses and favoritism, breech-born in agonized fits and starts, the configuration had settled into the role of a domineering geopolitical octopus people everywhere ranted and raved against, damned to a fault, and somehow learned to tolerate.

But the *cost!*

Viewed in hindsight's omniscient glare, a refused-to-be-seen inconsistency had been seized upon not only by the "radical" faction supporting Rook himself, but by many, many others as well. Escalating from its inception, the surreal level of taxation required to allocate astronomical sums for legislating, instigating, and rigorously enforcing the stringent environmental standards had meant forgoing certain "minor" items.

Adequate housing, education, and medical care had fallen by the wayside. Urban renewal had ceased. Care for the homeless, the aged, and other forms of social services had disappeared. Space research and exploration had been suspended *en toto*. Likewise industrial research and development, medical research, agricultural advancements and innovations, projected or revamped mass transit systems, the construction or renovation of roads, dams, bridges, and factories, the preservation of endangered wildlife species, the eternal battle against crime run rampant, and of course the never ending warfare against the endemic spread of drugs. All of these "minor" items, except for one or two essential avenues of scientific research, had either evaporated or been truncated to the verge of extinction.

During more than three hectic generations, the anti-greenhouse crusade had consumed untold trillions upon trillions in resources, with minuscule progress to show for it. The great cross-section of human beings everywhere had been submerged in a sea of red ink, for such titanic expenditures made each succeeding generation the inheritors of a worsening lifestyle, the reluctant proprietors of a decrepit, dilapidated technological civilization in eclipse, the victims of a fading mirage that had once meant fruitful, productive day-to-day

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

life.

Humanity's great leap backward struck home with sledgehammer force, related Commissioner emeritus Rook, when his recent study had revealed that Mother Earth, in league with subtle but discernible solar fluctuations, seemed bound and determined to go her own way, persistently ignoring most forms of manmade "help." It was then that he had decided the greenhouse bugaboo consisted largely of hot air.

". . . and only rarely," he summarized, "do I permit myself the use of pejoratives. In this case, a dirty, filthy, richly deserved acronym comes to mind: tee-tee-cee-bee. Succumbing to a rabid case of tunnel vision, TTCB initiated a totally irrational overreaction to a questionable premise by capitalizing on a basic human trait: the innate, nearsighted "do-gooder" instinct inherent in most individuals. The debacle inspired by those twentieth-century bastards has given us the opportunity to wage a life-or-death struggle against abortive odds; namely, to overcome the consequences of an artificially created imbalance in available resources.

"Ladies and gentlemen, *hear* me," he urged. "We live today beneath the Damoclean sword first unsheathed by TTCB. It dangles by a worn thread, and the thread is fraying steadily, fiber by fiber, strand by strand."

Stretching out an emaciated arm, Rook thumped the conference table for emphasis. "Our goals *must* be rethought. Our objectives *must* be redirected before it's too late. If," he added somberly, "it's not too late already."

A smothering stillness descended over UNDEP's executive conference chamber. Looking disinterested, as though ignorant of what had taken place, Director Christiansen had actually been following Rook's dissertation with analytical concern. "As always," came his low-voiced endorsement, "you've done your homework exceptionally well." The director scanned the assemblage. "Before Commissioner Rook proceeds, does anyone wish to hear discussion, or rebut his summation?"

Meaningful glances were exchanged, a few eyebrows raised. After a rash of paper shufflings and polite coughs, silence resumed.

"Very well." Christiansen dipped his head toward the aged man slumped in the geriatric chair. "We'll take a ten-minute break. Then you may proceed, Bennett. . . ."

"Momento!" Alonzo Mateo de Alarcón raised an imperious hand, causing his visitor to break off in mid-sentence. As personal adviser to Dr. Thomas Spencer Lowndes, chairman of the IEF Security Council, as well as that august gentleman's most intimate associate, Alarcón reveled in his niche as global power-broker and minister without portfolio.

"My friend," he said with exaggerated tact, "far be it for me to dispute your account of the meeting. However. . . ." Exhibiting as much diffidence as his sanguine Latin countenance permitted, the dapper Spaniard touched a multi-function controller.

Bennett Rook's gravelly baritone issued from hidden speakers. ". . . so it should be obvious that forcing *perpetrators* to pay for polluting and desecrating

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

constitutes the optimum economic solution. Heavily taxing offenders in the commercial, private, and nonprofit sectors is not only more conscionable, but far the lesser of two evils. . . ."

Stone faced, UNDEP's director shot a sidelong glance Alarcón's way, then took it upon himself to lean across the polished ebony desk and kill the tape drive. "This morning's session was intended to be off the record," he said slowly. "It was held to gain feedback from our senior people, period. After listening to round table discussion, I planned to initiate an exhaustive analysis of Rook's conclusions; the results would have helped decide whether to endorse or quash his proposals. Despite my plea for confidentiality, someone managed to slip out of our private meeting with that tape."

The other's shrug was eloquent. "It's useless to feign naiveté with me, Nils. These days, the ears in the walls have ears themselves. I realize what you're intimating, but please believe me: I swear to you in the names of all the saints that no one was sent to 'spy' on your meeting."

"The tape turned up . . . gratis?"

"Out of the blue. It is why I invited you to drop by this afternoon."

Christiansen ground his teeth in frustration. "I won't embarrass you by mentioning names, but let me venture a wild guess. I think the culprit's initials are Monsignor Velk."

Alonzo Mateo de Alarcón's smile resembled the toothy rictus of a predator. "I shall neither confirm nor deny the allegation, thank you."

"Don't bother," said Christiansen gruffly. "Our holier-than-thou chaplain detests Rook with an unhealthy, almost maniacal passion. Any professional or private injury he can contrive for Bennett is doubly assured."

Alarcón's expression turned quizzical. "Why do you insist upon calling this so-called 'spying' injurious? Injury to whom, may I ask?"

"To UNDEP. To Rook personally," said the director. "To me, if you prefer. I did my damnedest to prevent Bennett's schemes from being prejudged, trashed out of hand. The duplicity of Monsignor—pardon me, of our mystery spy, has shot down any chance of doing so."

Alarcón pursed his lips. "Duplicity. . . ? If the pious gentleman whose initials you bruit about so freely were indeed guilty, I'm certain he would consider his action a sworn duty, not duplicity. As well as God's will, of course." The cynical smile persevered. "You do realize that in his disdain of Rook your chaplain stands at the head of a long, well-populated queue."

Christiansen ignored the byplay. "Has the chairman been briefed?"

"As yet, no. Dr. Lowndes has an exceptionally busy week. I've arranged a floating appointment with him sometime after tomorrow's Security Council session."

The director pondered. It had taken a half-decade of forced obsequiousness and cordiality to arrive at a first-name relationship with the crusty, posturing intellectual who made no bones about his perch close beside the throne. Concluding that a need to clear the air outweighed the danger of antagonizing the volatile administrator, he said firmly, "Bennett's proposals aren't exactly the result of guesswork. His recommenda-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tions deserve fair, impartial evaluation, and an equally fair and impartial hearing. I would take it as a great personal favor if Dr. Lowndes could be informed that I tentatively concur with the corrective measures he's suggesting."

The other blinked, heat rising in his slate-colored eyes like an opaque vapor. Behind the hooded eyes, ego did battle with a shrewdly perceptive intelligence. Ego seemed to win. Alarcón reproachfully studied the huge man seated opposite his desk. "*Señor* Christiansen, to say I am flabbergasted would be a colossal understatement. I pride myself on retaining an open mind, yet my mind is made up on one point: we shall *not* presume to argue fruitlessly about the rantings of a known political heretic."

"Bennett is exceptionally brilliant." Christiansen was instantly regretful. As mollification, it had sounded worse than lame.

"Star bright or dull as dishwater," was the other's short-bitten response, "Rook is a vestige of yesteryear, a senile footnote to UNDEP's historical travail. He's a would-be radical reformer who has outlived the usefulness which, I grant you, might have once been quite formidable."

Christiansen could not suppress a groan. "Not senile, Mateo. Never, by any stretch of the imagination, could Bennett be called 'senile.' As for conceiving and promulgating a radical philosophy . . . isn't it true that radical problems often demand radical solutions?"

Now visibly incensed, Alarcón hunched forward. His elbows clumped on the desktop. "My dear Nils," he said, his crisp elocution laced with contempt, "I believe respect for this septuagenarian genius' former accomplishments has blinded you to the nature of his outlandish scenario. Invoking frankly dubious authority, he began his misadventure by commanding an encyclopedic, *trés* expensive study of the contemporary human condition, no?"

"I sanctioned the study," said Christiansen defensively. "It was funded openly, offering an opportunity to—"

"Do *not* interrupt me, I beg you." Eyes blazing, Alarcón forced his visitor to endure a two-beat pause for dramatic effect. "So then, swallowing whole and extrapolating wildly from certain ill-defined conclusions derived from this 'sanctioned' study, your commissioner emeritus has urged the adoption of three-fold measures, two of which are drastic departures from established doctrine. Let us examine them one-by-one, commencing with his least contentious brainstorm.

"First," said Alarcón, "Rook advises us to bankrupt all extant R&D programs by diverting each and every *peseta* of scarce funding toward the realization of applied fusion power."

"We're almost there," the director hurried to say. "I have it on good authority that within—"

"*Faugh-h-h!* 'Almost there' is the same fairytale spun by every research and practical physicist since before the century dawned. Rook's claim that a relatively cheap, utterly safe source of endless power would be a cure-all for the world's ills is not merely extravagant, it's pie-in-the-sky fantasy, the pot of gold at rainbow's end."

Alarcón's riveting gaze made the di-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rector reconsider his strenuous objection.

"Secondly and thirdly," pursued the other, "UNDEP's oh-so-brilliant commissioner emeritus advocates a pair of absolutely revolutionary 'reforms.' Rather than continuing to invoke the classic environmental penalties now in effect, and taxing the global public accordingly, he urges us to drive into penury each *offender* who dares violate environmental standards, thereby putting the bite on individual despoilers of the air, seas, rivers, and rainforests. He would have us force the culprits themselves to pay for the privilege of completing the planet's ruin. Yes, I'm certain we'll eagerly rush to outdo ourselves by scrapping every time-tested, reliable measure employed over the years to avert catastrophe. We shall of course unanimously adopt his totally untried, revisionist method, even though it is bound to introduce a galaxy of unknowns into what for generations has been a semi-balanced equation."

Christiansen forced himself to remain silent, refusing to wilt before the other's sarcastic outburst.

"*¡Ay de mi!*" Alarcón clapped his hands loudly. "Do these sound like serious proposals? Do they seem like the workings of a sound, rational mind that definitely has not—so you assure me—degenerated into senility? Filled with raving paranoid delusions, perhaps. Brimming with schizoid maunderings, maybe. But *not* senile. No, no! Never senile."

Synapses closed somewhere in Christiansen's brain. A crimson veil descended, shrouding his vision. He lurched to his feet, spasmodically clenching and unclenching the enormous fists that hung below his cufflinks.

"Well, *Señor* Christiansen. . . ?" Alarcón watched with lizardlike fixity as the director stood poised on the balls of his feet, looming above him like a great bronze statue arrested in the act of toppling.

"It's futile." The director was holding himself in check by main force of will. "Belaboring vital issues with someone whose 'open mind' has snapped shut is futility itself."

"Absolutely futile! I bid you good evening, sir."

Turning on his heel, Christiansen stumped heavy-footed from the lavish office suite, his no longer open mind roiling under a compulsion to go back and wipe the arrogant, superior smirk from the face of Dr. Lowndes's erstwhile factotum.

Fist to chin, Alonzo Mateo de Alarcón ruminated. *Fire and ice*, he rhymed subvocally, *make everything nice*. He made a pretense of letting his "volcanic" Latin temper subside. It was a favorite deception, and one that invariably succeeded. Proud of the inner coolness and self-discipline he had nurtured, he could not remember the last time he had actually lost his temper, having learned early in professional life that feigning anger was dozens of times more valuable than the fact of it. Used judiciously, dramaturgical rage opened doors and windows on raw human nature that many of the people with whom he dealt would rather had remained tightly shuttered.

Savoring the moment, he bent and punched up the combination of a locked

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

desk drawer. He extracted an illegal cigarette from the ornate, gold-flashed humidor presented to him by the former Argentinean ambassador and stared hungrily at the forbidden white cylinder. Closing his eyes, he sniffed it, rolled the texture of its illicit tobacco between his fingers, then snapped the cigarette in two and dropped the halves into a hand-tooled leather wastebasket. Dusting his hands, he activated the office intercom. "Send him in, Miriamne. And hold my calls, if you will . . . yes, all of them. We are not to be disturbed for anything. *Comprende?*"

"Yes, Mr. Alarcón."

A lanky figure clad in funereal black slipped through the side door. Monsignor Velk lodged himself rather tentatively in the office's centerpiece—the double-curved Barcelona chair warmed until moments ago by Nils Christiansen.

His host had swung about to face the glasswall. He was pensively studying the distant mega-sprawl of Brooklyn and Queens, where low-lying constellations were beginning to wink on in the gathering dusk. Three extensive sectors remained dark; the nightly power brownout, scheduled on a rotational basis, was in effect. "You overheard?" he murmured.

"The winsome young lady in your outer office obliged me by opening the intercom circuit." The Jesuit attorney squirmed, settling himself. The Barcelona chair, a genuine antique of coffee-colored leather, was present for ostentation, not comfort. The monsignor pursed his lips. "Christiansen sounded . . . distraught."

Alarcón's dry chuckle lacked humor. "You have a droll way with words, my friend. The Great Dane was no lap dog today; he swept out of here in a killing fury. But I judge Nils to be a decent, honorable gentleman. He'll soon recover his aplomb."

"No question," said Monsignor Velk. "Did he believe you about my, er. . . ?"

"Not for one single millisecond," denied the other. "Nils is no one's fool. His emotional outbursts occasionally transcend his perspicacity, making him vulnerable, but otherwise. . . . What we must keep in mind is how damned intractable he can be. And how loyal. A meld of Scandinavian stubbornness and unswerving loyalty is difficult to deal with. He can't help himself; men of his stripe invariably bend over backward to protect a subordinate, and UNDEP's *éminence grise*, though mad as a waltzing mouse, is no run-of-the-mill underling. I'm told Rook is still as tough-minded and acute as ever, but I think he's finally gone round the bend. Wouldn't you say so?"

A sage nod was the Jesuit attorney's only response.

The high-backed executive chair swiveled abruptly. Pupils the color and texture of black olives locked with Velk's. "Excuse me," said Alarcón in a dangerously silken tone. "I must have missed your reply."

Startled by the pale, hypnotic fire in the other's eyes, the priest was quick to say, "In my opinion, certifiable."

"Certifiable . . . yes."

"Yet lunacy and lofty intelligence are not always incompatible," observed the prelate.

Alarcón considered the ramifications of this remark. At length he said, "A

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

point well taken. For our purposes, a condition less than propitious, but certainly not uncommon."

"What's to be done?" asked the priest bluntly.

"Done?" Alarcón's thick brows knit. "Tomorrow, Dr. Lowndes will listen with great interest to your tape; of that you may rest assured. Only then shall we learn what is to be done."

Velk's knowing smile was laconic. "Mightn't he listen more attentively to you than a dry, colorless tape?"

The other's chin lifted. "Softly," he warned. "Do not overstep yourself, Monsignor. We have a basic understanding, Dr. Lowndes and I. People do me great honor by seeking my counsel, but self-deception has never been among my weaknesses. No one would dare question who is in charge. Not only is he—"

The office intercom chimed twice in rapid succession. Alarcón irritably stabbed a switch plaque. "I take it my instruction was unclear?"

"Dreadfully sorry to interrupt, sir. The chairman's calling, channel six, scrambled. He, uh, told me in no uncertain terms to break in."

Alarcón eased back in the chair. "You are absolved of all guilt, Miriamne. Put him through, please."

Descrambler circuitry quickly erased the vidicom's random holographic spatter. The muzzy hodge-podge jelled into the image of a silver-haired, grandfatherly gentleman whose overt aspect was congeniality itself. But the flinty gleam in the caller's hawklike eyes was anything but convivial. "Mateo," said Dr. Lowndes with understated casualness, "what in Christ's name is going on over there at . . . ?"

Noticing Velk's presence for the first time, the IEF Security Council chairman broke off. His manner softened into a mask of practiced affability. "Do forgive me," he said, oozing executive charm. "I hadn't realized you were entertaining the monsignor."

The antennae used to gauge his patron's mood now fully extended, Alarcón fell all over himself explaining the Jesuit attorney's presence, the primary role he had played in the current intrigue, intimating that he himself had been on the verge of alerting Lowndes after reviewing the tape of UNDEP's secretive morning meeting.

Lowndes cut short the explanation with a curt wave. His demeanor reversed itself; his apple-cheeked Santa Claus visage took on a darker aspect. "In that case, there's little reason to withhold information that also concerns Monsignor Velk.

"Someone named *Rook*," said the chairman, drenching the name with vitriol, "has issued a formal UNDEP press release outlining the most damn-fool proposals you or I or anyone else could possibly imagine."

Global power-broker and minister without portfolio though he was, Alonzo Mateo de Alarcón felt a sudden cold constriction in his bowels.

UNDEP's director swept into his outer office, making as if to breeze past his personal secretary and four dignitaries who were waiting to see him. The harried woman jumped up behind her desk, determined to interrupt his passage with a recital of the dozen panic calls received during his absence.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Christiansen ignored her.

Alone in his soundproofed inner sanctum, Nils let himself go. Cursing fluently in four languages, he pounded a fist into his open palm, tiger-pacing the length and breadth of his office suite, giving vent to a rage that refused to abate.

It's so damned unjust, he thought. *So hypocritical!* Bennett's faults, few as they might be, were deeply ingrained in his diamond-hard personality. But whether radical dreamer or utopian visionary, UNDEP's senior ideologue was at least honest and forthright, which was more than could be said for the devious puppet whom Dr. Lowndes had for some obscure reason appointed as his buffer and chief spokesman.

Allowing his blood pressure to subside millimeter by millimeter, Christiansen stalked into his private washroom. He doused his face in the brackish, lukewarm dribble running from the tap, used excessive energy to scour his florid features with a rough terry cloth towel, then came out and poured a stiff dollop of *akvavit,* knocking it back in two swallows. Seating himself at the desk, he switched on the closed-circuit vidicom terminal.

Unearthing Bennett Rook's whereabouts required two and one-quarter minutes. He touched base in several offices, his queries succinct, before learning from one of Rook's aides that his quarry had signed out and retired to his quarters on the UN Tower's ninety-second floor.

The treetop-tall bodyguard who answered the portal was reputed to be fanatically loyal to Rook. Knowing the ex-felon doubled as chauffeur, valet, secretary, and gofer-of-all-trades, Nils endured the man's iron-eyed scrutiny while hidden sensors verified that he was unarmed. Ushered wordlessly inside, he found the geriatric chair drawn up beside the dinette.

A light blanket was draped over the spindly knees of UNDEP's controversial elder statesman. Setting a demitasse of coffee laced with cognac in the saucer, Rook glanced up at the director incuriously. "Judging from your kilometer-long face, the hornets are out of the nest. Will you take coffee? A spot of energizer, perhaps?"

The director made no reply. Drawing up a chair, he plopped down heavily. He chafed while Rook dismissed the bodyguard, watching in a thick, gravid silence as the glass coffee service was removed.

While the sliding door to the pantry squeezed shut, Christiansen drew a deep breath. "With the aid of our stiff-necked chaplain's pious Christian endeavors, not to mention Alarcón's beneficence, your good works have me pinned between a rock and a hard place."

"Ignoble speeches aren't your forte," said Rook matter of factly. "I'll take the heat, Nils. All of it. Your move is to throw me to the wolves, adamantly disclaim all knowledge, active participation, and so forth. I expect it. In fact, I've counted on it."

"Planned it, you mean." Looking even more vexed, the director was breathing stertorously. "You of all people," he accused, "should realize how often schemers fall afoul of their own pernicious schemes. You *knew* Velk planned to record the session, didn't

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

you?"

The other's protuberant hazel eyes twinkled. "Knew it? Rather proud to say I inspired it. Why else would anyone waste time provoking an inconsequential buffoon like our quondam chaplain?"

"Listen to me, Bennett—"

"No, just this once you must listen," said Rook quickly. "Much to the chagrin of the entire Society of Jesus *and* more importantly the archbishop himself, our legal-minded cleric has been indecently bedded down with Lowndes, Alarcón & Company for almost a decade. It gets a mite crowded under the covers when Lowndes stoops to join them—three men in a bed, so to speak."

The director's moue of disgust was unsympathetic.

"Please listen," insisted Rook. "If events fall out as I expect, the odious threesome may hold their next rendezvous in a procrustean bed."

"Bennett, Bennett!" wagging his head sadly, Christiansen proceeded to knead his receding hairline. "Spitting in the face of city hall is one thing, but *this* is in another league, another *galaxy*. What you've done is . . . you've provoked the *bosses*, the men who run this planet. Your feverish machinations have built chaos, not . . . what we both desire. I'm afraid to ask what other devious pots you've stirred."

Rook snickered softly. "Then don't."

"Oh, for the love of—!" The director raised his voice for the first time. "Martyrdom is the ultimate fool's errand. Worse, your self-sacrifice will avail nothing. Not one damned thing! It will probably set matters back a notch or two."

The other's head shake was adamant. "It won't—can't. Instead of spitting in the notorious triad's collective eye, a tomato-in-the-face surprise has been arranged. I've scheduled a formal news conference to follow up the press release. When the media, among whom are a number of sympathetic types, learns of our—"

"*News* conference?" Christiansen's jaw dropped. He pushed back his chair and leaped to his feet. "*Press* release! My God! You've done . . . *what?*"

Mildly taken aback, Rook said, "You hadn't learned?"

"No tap dance, Bennett! Not now. Fill me in. Quickly!"

Rook did so.

The director collapsed in the chair. "That," he said in a stupefied voice, "amounts to nothing less than professional suicide. For *both* of us."

Immune to chastisement in any form, from any quarter, Rook said calmly, "Please don't jog my elbow, Nils. Trust me."

"*Trust!*" roared the Great Dane. "You have no conception of. . . . You don't *know* these people like I do. Your life is your own; do with it what you will.

"But I *refuse* to let you drag UNDEP into the grave with you."

Rook pointed brusquely. "You, there—third row, chic lilac jumpsuit. Or would that be mauve?"

Declining to acknowledge the gibe, the syndicated newspaper and holovision analyst waited stoically until a few chortles of appreciation for his lively

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

apparel died down. "If as you propose," he said at last, "every item of environmental legislation were to be repealed and rewritten, wouldn't it leave the United Nations high and dry? Where would the revenue come from to support IEF, the UN Organization in general?"

"Including my salary? Is that what you're asking?"

The glib rejoinder earned a smattering of good-natured titters.

Seated inconspicuously in the UN Press Center's soundproofed control booth, Nils Christiansen was gradually overcoming his dismay. He could not help admiring the way his acerbic colleague was handling the inquisitors. Rook still had a distance to go before the pragmatic newsmen and media pundits would be eating out of his hand, but their general reaction gave away the fact that he had definitely swayed them. After listening day after day to maudlin political and bureaucratic rhetoric, then struggling to provide intelligent commentary on same, he imagined the newshounds found Rook's up-front responses deliciously refreshing.

The elderly man in the spotlight shook his head sadly. He turned a jaundiced eye toward the three-headed holovision blimp's unwinking red pinlight. "And here," he said in mock dismay, "I thought I'd already clarified that. Environmental revenues would derive from a different source of taxation, naturally. Where else? Any corporate, private, or nonprofit entity who wished to further pollute the streams, rivers and seas of our once fair planet, emit noxious substances into our damaged atmosphere, salt our semi-barren Earth with dubious compounds, or ravage a precious quarter-acre of the world's residual forestlands, would be quite welcome to do so—*if* he, she, or it were willing to pay for the privilege, and pay through the nose."

"It's paid for now," objected the analyst.

"Why, thank you. Made my point for me, haven't you?" Rook's patented nice-nasty grin clicked on and off. "Guilty, innocent, or somewhere in between, for more than three generations you and I and everyone else—quaker, baker and candlestick maker, lord and lady, serving wench and scurvy knave—have been sinking ever deeper into a morass of environmental taxation. Our society has been levied into economic oblivion. We've been conditioned to blithely accept the horrendous tax bite for 'our fair share' of environmental enforcement. *You* now pay the piper whether or not *you* are personally responsible for an infraction, true?"

The analyst subsided, looking vaguely mystified.

"Instead," asserted Bennett Rook, "why not place the horrendous tax burden where it belongs: squarely on the broad shoulders of each and every guilty party."

"Think what effect that'd have on business," hooted a senior reporter.

Rook beamed. "Dear sir, you have also earned my undying gratitude. What it will do is force commercial enterprises who wish to keep their heads above water to toe the line, to comply with the letter of regulations they now slough off without a second thought, knowing you and I will hasten to pick up the tab."

"Businesses that get dinged," rebut-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ted the newsman, "will just up the price of goods and services to cover the added cost. We'll be right back where we started."

"No, no." Rook waggled a knobby forefinger. "Not if they want to remain competitive. *Laissez-faire* will solve that particular dilemma. Remember, the ultimate goal is to lend Mother Nature a helping hand by reducing or hopefully eliminating environmental damage. In order to push with all our might toward that objective, let's dump the gawdawful tax monster created in large by business itself *back* on business itself. If we do, perhaps a foothold can be regained. Perhaps we can replace stagnation with rebirth. Perhaps we can reaccumulate the assets needed to fund forward-looking enterprises instead of running as fast as we can, only to backslide."

"Like that 'forward looking' spiel you gave us a while ago on fusion research?" The barb came from a network commentator.

"First and foremost, above all else, and of paramount importance, *fusion*." Rook leaned heavily on the word. "Not research for its own sake, however. Rather the *fruition* of on-going fusion research."

"Sure fusion power isn't a pipe dream, Commissioner?"

Rook directed the full force of his personality at the scoffer, a middle-aged anchorwoman whose youthful piquancy was the fruit of cosmetic surgery. "One hundred percent cĕrtain," he said with one thousand percent assurance. "The energy input-output breakeven point was reached decades ago. Since then, as I understand the technical quandary, fine-tuning a variety of sophisticated tokamak designs involves junking blind alleys by the tedious process of elimination, then refining one or more viable methods of *sustaining* plasma temperature and magnetic containment, not achieving them."

"What would you say," asked a news hawk in the middle of the pack, "if someone in the know, someone you respected, told you your proposals were idealistic and farfetched?"

"Not to mention sort of whacko," muttered someone else.

"Why, I would say to the sayer, 'You're wrong,'" quipped Bennett Rook.

The sally earned a round of uncertain smiles.

"What would *you* say," demanded Rook, "to an endless, relatively inexpensive, incredibly safe and sane power source that will replace a billion times over the fossil fuels those twentieth-century bastards and their heirs and assigns let go up in smoke? Nauseous smoke, at that."

The reference to TTCB seemed to give the attendees pause.

A thrill of mild elation ran through Christiansen. He began to appreciate that the ultimate verdict on Rook's controversial proposal might lie with the widespread billions who made up the world's viewing and voting public. Media types in general, and news hounds in particular, were notoriously shy of eating out of any public figure's hand. Nevertheless, those present had shown no signs of overt hostility. Cynical and inordinately difficult to convince, yes; that was to be expected. But not hostile. And whenever Rook entered into one of his lengthy technical explanations, the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

director noted how attentively they listened, how religiously notes were taken.

"What do the Security Council bigwigs think about you trying to upset the apple cart?" asked a slim black news hen.

Rook lifted both hands, palms upward. "Haven't the foggiest, Madame. But peek beneath the surface and you will recognize how long ago the wheels came off that selfsame apple cart."

"Proposing change just for the sake of change, aren't you, Commissioner?"

Rook's disdainful grimace was his only acknowledgement of having heard such impertinence. He ignored the query. "You, there," he said, gesturing to a mahogany-hued Pakistani newscaster whose hand had for minutes been raised imploringly.

Before a question could be heard, Rook's chief aide slipped into view. Unobtrusively as possible, the portly man passed his leader a folded square of paper, then ducked away from the brightly lit podium.

Christiansen sat bolt upright. It was unheard of for a UN official to be interrupted while on the air. Moreover, the deftness with which the message had been delivered cued him; the interruption smacked of being rehearsed, staged. Knowing Rook's penchant for machination, he thought it a damned likely premise.

"Excuse me, please." Unfolding the scrap of notepaper, Rook scanned it hurriedly. He startled Nils and everyone else by clenching his jaw and exerting himself, abandoning the mobile prison of his geriatric chair. Struggling erect, he supported himself as best he could by clinging to the chair's padded armrest.

"I've just been handed. . . ." Rook stopped, raw emotion twisting his ordinarily sphinxlike features. "A moment ago I was asked a rhetorical question. . . ."

He tottered, lending those nearest him the urge to drop everything and rush to his aid. "Bear with me, ladies and gentlemen; this is difficult for me. I've been notified of a joint bulletin just issued by Sandia National Laboratories in conjunction with Heidelberg's Max Planck Institute and the Gorbachev Academy in Kiev."

Rook cleared his throat. Hesitantly, as if he were having difficulty forming syllables, he said, "F-for the past 116-plus hours, the reconfigured Sigma Pinch tokamak at the US Energy Department's Supercollider Complex near Dallas has sustained a controlled fusion reaction. The output is constant, on the order of a half-gigawatt, and shows no sign of quenching. Sandia's staff has—"

The remainder of his statement was swept away by a tidal wave of pandemonium.

Christiansen found himself involuntarily holding his breath. He gasped. A tomato-in-the-face surprise, the cantankerous old devil had called it. He had plotted his moves so meticulously, had played his part in the present charade with such verve and showmanship. Senile, was he? Everyone, young or old, should be afflicted with Bennett Rook's exotic brand of senility.

Christiansen burst from the glassed-in control booth. His admiration for UNDEP's bad boy savant knew no bounds.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

The Right Reverend Monsignor Theodor Velk, S.J., nervously fingered his clerical collar. Deeply disturbed by what he'd been hearing, he rose and edged toward the door. "Best, perhaps, if I were to excuse myself."

"Sit down," said the IEF Security Council chairman.

"But it isn't—"

"Monsignor," said Dr. Lowndes drily, "some time ago you bellied up to our table and began savoring a long, lavish feast. Now the need has arisen to bus the dishes, wipe the table and sweep up, and you feel a sudden urge to duck out and keep your manicured patty paws clean."

"It's not that," denied the priest vehemently. "My calling makes me ineligible to practice secular law, but I'm still an officer of the court. Failure to act upon learning of certain, uh, delicate information would be construed as—"

"Sit *down!*"

"It might be wise," observed Alonzo Mateo de Alarcón, "to do as the chairman suggests."

His brow filmed with perspiration, Velk slumped on the off-white settee. "Isn't what you're contemplating . . . ? What I mean is, why do you feel it . . . necessary?"

"Necessary, no," contradicted Lowndes. "Mandatory."

The priest swallowed noisily. The chairman's stony, unwavering gaze unnerved him. He dismissed his unborn objection.

Dr. Lowndes steepled pudgy fingers, looking distantly aggrieved. "Why am I forever called upon to explain the facts of life?" he asked no one in particular. After a speculative interlude, he smacked his lips. "Monsignor, have you ever watched a professional tree surgeon at work?"

Plagued in equal proportions by acute anxiety and bafflement, Velk's stumbling response was, "Uh, no."

"I thought not." The chairman applauded the revelation with a momentary smile. "Then let me tell you how it is. With trees precious as diamonds, a dedicated professional never makes tidy little snips. He's fully aware of how vital the tree, how negligible the shorn limbs, and therefore knows—not guesses, but *knows*—which diseased and deformed branches must be removed entire to return the tree to optimum health. A superior tree surgeon's saw is constantly in motion, busily hacking off many more large and small branches than a layman might think appropriate."

"I . . . don't understand what that has to do with—"

"I'm certain you do not." The chairman's homespun manner blossomed anew. He awarded the priest a second warm, companionable, chillingly sterile smile, then blinked and swung toward Alarcón. "Adopting arboreal splendor as our guiding premise, Mateo, would you mind providing enlightenment?"

Alarcón nodded. "I could be mistaken, Monsignor, but I think you've convinced yourself that our plight is desperate."

"Well. . . ." His composure rattled to the point of distraction, the priest's glance darted apprehensively from one associate to the other. "That . . . may be too strong a term, though I do feel—"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Ease your mind," said Alarcón gently. "There is no plight, and our situation—though presently in a state of flux—is anything but desperate. Other than the nuisance created by a snowstorm of panicky petitions from every multinational business concern in existence, the actual method of raising environmental tax revenues is immaterial."

"Im-material?"

"A matter of total irrelevance. More significant by a factor of light-years is the advent of practical fusion power. If as purported, my dear Monsignor, the realization of fusion amounts to a soaring monument to serendipity. So much so that we shan't quibble about the deceitful manner in which Rook's misguided sycophants concealed progress until he could stage his melodramatic announcement. Ah, but showmanship and sentimentality are the chief weapons of demagogues and social heretics, no?"

"Then why," asked the priest, "must you—must we—?"

"Instead of talking," advised Dr. Lowndes, "listen and you may learn something of value."

Alarcón squinted in concentration. "We cannot afford the luxury of sticking our heads in the sand regarding this weighty development. Rook's unorthodox tactics have inspired a potentially irreversible shift in global thinking. The degree of that shift, whether it is in the right or wrong direction, or even remotely viable, is for the moment imponderable. Being realists, we must accept a de facto accomplishment for what it is. The cat, as they say, is out of the bag."

"Then why—?"

"Permit me to finish, please," requested Alarcón. "Now suppose—just suppose, Monsignor—that Commissioner emeritus Bennett Rook's oh-so-radical proposals have not-yet come to full flower. Suppose, for example, that he grows disenchanted or dissatisfied with the results of the, shall we say, 'damage done to date,' and decides to invent even more grotesque scenarios. Isn't it obligatory, as the chairman has pointed out, to surgically prune a branch known to be diseased so that the valuable tree may flourish?"

The monsignor's brow contorted. His throat was dry. "I make no pretense of feeling anything but revulsion for that arrogant monster. But I can't conceive the only alternative to be . . . he's old and ill. What's to be gained? The director will surely carry on, with or without him."

"To a limited degree," conceded the chairman. "But, you see, Nils Christiansen is above reproach; his executive competence is unquestioned. He could never be accused of failing to exhibit sane, stable leadership. On the other hand, the unrighteous person under discussion has given himself away. He's a renegade, a dog in the manger, a veritable fountainhead of doctrinal heresy. Christiansen is eminently manageable, whereas this Rook person definitely is not."

Tiring of what was to him a tedious exchange, the IEF Security Council chairman turned his gaze toward his alter ego. He made a brief, chopping gesture with the flat of his hand. "No tidy little snips, Mateo."

"As you wish, *jefe*."

"Please arrange it with discretion."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I shall."

"*Utmost* discretion," emphasized Dr. Thomas Spencer Lowndes. The chairman turned back, transfixing Velk with a gimlet stare. "Have we something further to discuss, Monsignor?"

The Jesuit attorney licked his lips. "N-no," he said in a barely audible voice.

Misty gloom enveloped the Greater New York megalopolis. A tiny two-place commuter helicopter flirted with the overcast's fringes, its proximity radar buffer affording it automatic elbow room within the flyway's light after-midnight traffic.

The helo pitched downward, descending sharply into clearer night air. At exactly 0300, per the terse instructions received via a preemptive audio-only call, the young pilot yanked back on the collective as if to dodge a looming array of winking red lights atop the mile-high seat of the United Nations Organization.

Rotary wings bit the cold, humid air. The helicopter flared to a semi-hover, its ground speed a mere twelve or fifteen klicks-per-hour. An indistinct figure clad in black dangled beneath the 'copter's bubble canopy, gloved hands clutching a trailing loop of Manila hemp that was invisible to radar return. The helicopter settled delicately, thrashing its way across the rooftop's acreage, cutting a deft, zig-zag path between staggered rows of hulking cylindrical air-conditioning evaporators.

When his lead foot made contact, the suspended figure let go and commenced running. He staggered headlong a few overbalanced strides before tucking up deftly and rolling to a stop.

The helicopter lifted at once, sweeping off to the north. Its throbbing drone dopplered away as it vanished back into the overcast, where the pilot spent a moment explaining to Greater New York air traffic control how a minor mechanical glitch had forced his temporary descent below legal flyway altitude.

Limned in the stroboscopic flashes of the tower's aircraft warning lights, the all black figure kneaded a bruised elbow and rose cautiously. Having owned any number of aliases, Yas Numata—the name forwarded to his unknown employer for remunerative purposes—crept toward the roof's southern parapet in a semi-crouch.

Every nerve ending triggered to razor sharp alertness, the intruder glided toward the building's southwest corner, a moving patch of darker darkness. Reaching his destination, he paced off thirty-eight meters westward, marked the spot with the toe of a black sneaker, then unbuckled the chest latch and shrugged off the shoulder straps securing his backpack. He unzipped the bag and extracted a "U"-shaped titanium bracket, which was wedged firmly over the low parapet. Attaching a tension reel cannister to the bracket's outer horn, he pulled free a meter or so of wire not much thicker than a spider web. Manufactured on-orbit decades earlier, before economic chaos forced abandonment of the Lockheed-Northrop zero gee factory, the ultrathin wire's tensile strength exceeded that of drawn piano wire by a full order of magnitude.

Numata leaned over the parapet, nonchalantly looking straight down. Manhattan's myriad lights spread beneath

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

him, a far-flung, twinkling blanket that bathed the tower's vertical face in a pale moonlight glow. The facade fell sheer to a wide, parklike setback roughly a half-kilometer below. Vertigo would have made most individuals cringe back from the abyss. Numata seemed anything but nonplussed.

"He's quite old, known to be unwell, and rarely if ever leaves the tower," had warned the crayon-scrawled ideographs of his anonymous patron's final message. *"That, coupled with a live-in bodyguard who seldom leaves his side, may complicate matters."*

His naive, unknown employer had circuitously laid before him an astonishingly lucrative contract. Wealthy though he or she undoubtedly was, his benefactor obviously had only cursory acquaintance with field operations, and most certainly no feel for the relatively uncomplicated nature of a mission whose target was a sick old man confined in a geriatric appliance, isolated from immediate help within a gigantic building whose security cameras were said to be disabled on the service stairway and each pertinent floor.

But even piece-of-cake setups demanded meticulous forethought and planning. He had run through his moves at home in Nagoya, again on the flight to Hawaii and on to the States, then yet again while holed-up in the fleabag Newark hotel room awaiting a "Go" signal. The bodyguard should pose no special hazard; he would most likely be asleep. If the way had been thoroughly prepared, as advertised, making it look accidental was the sole complication he foresaw. The potent barbiturates in his flap pocket would take care of that.

Numata scanned the roof's visible expanse meter by meter, making certain he was still alone. He redonned the backpack and depressed a self-test stud on the tension reel cannister, checking the power pack's charge, then clipped the snap-links securely to pad-eyes affixed to his belt harness. He went over the edge without hesitation, feet bouncing lightly against the sheer wall to keep his body properly oriented, paying out wire in a controlled fall. Many of the glasswalls and smaller windows he dropped past were dark; those lighted within vanished upward too swiftly to glimpse any sign of occupancy.

Slowing to a gradual stop above the pampered cherry trees clustered in the setback's esplanade, he planted both sneakers against the tower's smooth metal facade and arched backward, letting his eyes wander along the dimly lit pathways, across the manicured lawns, among the umbrellaless tables, searching for movement.

Finding none, he descended the last dozen meters and doffed the belt harness and backpack, wedging the gear overhead in the winter-bare branches of the nearest cherry tree. The luminiscent dial of his old-fashioned analog wrist chronometer told him fifty-eight minutes and a few seconds remained until the helicopter was due to scoop him from the rooftop.

Suspicious by nature, he had been informed that the flush, almost invisible service door leading to a gardener's store room would be unlocked. He inserted into dual slots the small spanner with which he had been provided, twisted and pulled. The door swung open noiselessly.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Numata had also been advised that night security, while extremely tight in the UN Tower's main lobby, at or near each pedestrian mall and sub-level entrance and exit, and at the lowermost batteries of lifts, was relatively lax on high. He had accepted this information with much more than a grain of salt; "lax" meant different things to different people.

With the aid of a pencil flash, he picked his way through the jumble of mowing equipment, coiled hoses, and stacked bags of mulch and fertilizer within the unlighted store room. He cracked the hall door, using a dental mirror to assure himself that the service corridor was deserted in both directions.

Easing into the hallway, he pointedly ignored the video camera and moved rapidly to the service stairway. Speed was becoming essential. It was some distance down to the ninety-second floor and, though tae kwon do workouts kept him immensely fit, the climb back would devour precious minutes. He fled downward, touching only every other riser, dodging around the switchback landings with light-footed agility.

Ninety-four, ninety-three . . . ninety-two. The nubby, cream-colored floor covering here in the residence-level hallway was less utilitarian than the carpeting on higher floors. Panting lightly from the descent, he held himself poised to disable with bare hands any night person he might encounter. He prowled toward the designated suite, having committed the route to memory, taking right and left hallway turns without thinking. He was gratified to learn that no one else seemed up and about.

The target's executive suite was near the main lift, its double-door entry recessed in a shallow alcove flanked by cut-stone vases filled with artificial flowers—*VIP treatment*, he reflected with a mental sneer. Withdrawing the electronic key card he had received in the packet containing his employer's final message *and* the dazzling bullion certificate representing one-half his reward, he paused to let his heartbeat slow, then slipped the key into the left-hand door's slot and stepped aside to avoid being silhouetted in the doorway.

The suite's alarm system was electronically interlocked to the key. No tumblers or mechanical latches existed; the door swung inward with a barely audible whisper from its hinges. Numata went down on all fours, then lowered himself to a prone position. Belly-crawling a few millimeters at a time, he crossed the threshold and entered the darkened entry. He groped behind him, breathing open-mouthed for silence, and eased the door almost shut, listening intently. On his left was the pitch-black parlor. A faint glow emanated beneath a closed door not far down the hall. Numata crawled forward. Using the dental mirror, he peeked through the slim crack between carpet and door.

His pulse rate jumped.

Assuming the bodyguard to be asleep, and more than willing to let him stay that way, he rose gradually, freezing in alarm when a knee joint creaked. He gingerly felt for the knob and turned it very, very slowly.

Across the book-lined study, the target was seated in his geriatric chair, facing away. Before him, in a lighted computer terminal, danced columns of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

figures.

Numata slipped a protective cover from the nib of a tiny dart tipped with animal tranquilizer. He sighted carefully; the base of the old fellow's skull, at the hairline, would be an ideal spot for a minor puncture wound to go undetected. He made two practice passes, then flung the dart.

Numata's elation dissolved. Stunned, he watched the missile zip through the old man's head and ping harmlessly against the computer terminal.

The hologram winked out.

"Stand!" The hoarse command issued from the study's darkened alcove.

Numata spun, reflexively whipping a knife from his ankle scabbard. He drew back to throw, his arm a blur.

Air rushing in to fill a sweeping needle of partial vacuum crackled through the study. The bodyguard's hand laser sliced across the would-be assassin's throwing arm, scorching an arc in the stimulated walnut wainscoting beyond. The knife thudded to the carpet alongside the severed hand.

A salted professional, Numata resisted the luxury of a scream. Scarcely any blood flowed; laser wounds were largely self-cauterizing. Sinking to his knees, Oriental features impassive, he clutched the raw stump of his arm. His expression did not change when the authentic geriatic chair bearing the real Bennett Rook glided through the study's doorway.

Stoic or not, intense trauma swiftly overcame the wiry Numata's iron will. He sagged, fighting the loss of consciousness, then slumped flaccidly and lay still.

"You may call now," said Rook without inflection.

"Captain Lucci himself, or—?"

"No, no. We'll save this spoiled meat for the back room. Something may be learned from him, though I doubt it. Summon one of those Bronx thugs you used to run with."

"Yessir." The bodyguard holstered his weapon. He went to the study's vidicom terminal, sorting among those few acquaintances who were still on the street, deciding who among them it would be prudent to contact.

An agonized grunt made the bodyguard whirl. "Commissioner!"

Teeth bared in a soundless cry, Rook clutched his midsection. He made as if to speak, but his eyes rolled up. Sliding feet first from the geriatric chair, he collapsed on the carpet in a rubber-limbed sprawl.

The tall man knelt hastily. He wrapped two fingers around the inside of the old man's scrawny left wrist. "Oh, Jesus-my-beads!"

The bodyguard lifted his charge without effort and deposited him gently on the lounge, then jumped to the vidicom terminal.

When the infirmary's lift doors slid apart, Nils Christiansen found himself confronted by a taciturn UNDEP Security Lieutenant. The plainclothesman nodded pleasantly when he recognized who it was. "Afternoon, sir."

A pair of armed, uniformed guards were stationed on either side of the door leading to the patient's private room. The nearer cop dipped his head deferentially. Nils was sure the other officer also knew his identity, but the burly man played it by the book, requesting a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

show of credentials. Lips moving, he made a show of running a not terribly clean fingernail down the authorized admittance list.

Having satisfied the watchdogs, Christiansen pushed through a swinging door wide enough to accommodate a hospital gurney. He halted, letting his vision adjust to the dimly lit room.

The patient reclined in a freshly sheeted power bed equipped with adjustable stainless steel side rails. He was clad in a backless hospital gown of bilious green; the color perfectly complemented his "putting up with it" expression. He blinked once, acknowledging his visitor's presence.

"How do you feel?" asked the director.

"You don't want to know," grumbled Rook. "Teams of witch doctors wrangle over my multifarious afflictions. Heart, lungs, kidneys, liver —take your pick. They're making book on which treacherous organ will crash and burn first."

Christiansen folded his arms. He gazed down at the patient with bemused affection. "Knowing you," he said, "I'd bet on your overworked spleen."

"*Touché!*" Rook permitted himself the briefest of smiles. "You've come to gloat, cheer me up, sympathize, what?"

"All of the above. I had a chat with each of your doctors. They reassured me."

"Oh? Pity they never reassure me. How was this miracle wrought?"

"The medical consensus," said Christiansen, "firmly establishes you as the worst, most obstinate, most disagreeable patient ever treated by any Northern Hemisphere physician, nurse, orderly, or administrative staff member."

"Grand to be appreciated."

"The specific prescribed for your ailment," Christiansen said slowly, "is a drastic improvement in manners."

The patient's lips twitched—a second near-smile. "Damned glad you dropped by, Nils. You're the first caller to this smelly pesthole who's indulged in only *one* of the 3,712 standard bedside clichés."

"An official statistic?"

"Chiseled in stone." Rook groped for the bed's dangling control switch. He caused the louvered window blinds to rock open half-way, then elevated the bed to a semi-upright position. "*Fiat lux!* Keep me in the dark no longer. What tidings of the wasteland beyond this slough of despond?"

"A juicy tidbit or two," admitted the director. "For one, UNDEP is breaking in a new chaplain."

Rook's eyes lighted with interest. "I've a ghastly hunch you're going to tell me our paragon of canon law has weaseled his way into a bishopric."

The director chuckled. "Guess again. It seems the archbishop had him boxed and shipped. He's off at some retreat or other, presumably to meditate on his sins."

"Hopefully a distant one." Rook sounded snidely delighted. "Meditation of that scope should keep the good friar out of our hair at least a half-century. And the illustrious grandee of whom you're so fond?"

The director shrugged. "Mateo landed on his feet, naturally. The grand jury refused to return an indictment. In-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sufficient evidence was given as the official reason, but it's obvious which strings were pulled, and by whom. Dr. Lowndes survived a Security Council vote-of-confidence by the skin of his teeth, and Alarcón's faith in his *padron* must've dissolved like a dew. I'm told he's vacationing at the family estate near Valencia."

"Umm-m-m."

Seconds slipped past. Neither man spoke until Nils moved nearer the bed. He lowered his voice confidentially. "How you managed it I'll never know. Kept a step ahead of them all the way. And, thanks to you, UNDEP's goal is also many steps nearer, even if the road ahead is strewn with potholes."

"Land mines, too. No surprise there."

"None," said Christiansen with a sigh. "In any event, Lowndes managed to squeeze by. At least for the time being. But he hasn't finished conniving. Never will. He tried an end-around ploy day before yesterday, hoping to subvert and redirect the Environmental Subcommittee. But by then public opinion had forced the issue into broad daylight. With nuclear fusion a reality, environmental tax legislation is anything but a moot topic. There'll be months, possibly years, of partisan infighting and horse-trading, but I believe your proposals will eventually be ratified."

Rook grunted his approval. "It's either the end of the beginning," he said, "or the beginning of the end."

"Either way, a major milestone." The director turned to stare out the window, where acid rain drizzled from a bleached buttermilk sky. "There are times," he said, "when recovering from the present mess seems hopeless."

Rook followed the director's gaze. "Perhaps. Take an even strain, Nils. You of all people can least afford discouragement."

"Upbeat philosophy, Bennett? From a born pessimist?"

"Call me an optipest. It sounds nicer."

The director nodded wryly. "Fusion upped the odds in our favor tremendously, but gaining ground with TTCB's millstone around our necks will be like climbing Everest with hobbles on both feet."

Rook's characteristic ghost of a smile reflected newfound serenity, a sense of being at peace with himself, with the world at large. "Keep that millstone in the forefront of your conscience," he said. "Remind yourself time and time again to reflect on TTCB's bitter object lesson, their witlessness and selfishness, their impact on the here-and-now."

"Not to mention the long shadow they've cast over humanity's future," said the director solemnly. "But their mistakes belong to the past. We've got to focus every waking instant, every iota of psychic and physical energy, on the future."

Bennett Rook closed his eyes. He sank tiredly against the pillows. "Odd, isn't it," he speculated. "Even casual mention of TTCB grates like a fingernail on a chalkboard? I doubt whether black, white, or rainbow-colored magic will ever undo the monumental errors of those twentieth-century bastards.

"But we're duty-bound to try. . . ." ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The Alternate View

KILLER ASTEROIDS AND YOU

John G. Cramer

© 1991 by John G. Cramer

What are the chances that you will die because an asteroid hits the Earth? The idea is ludicrous, right? The odds must be infinitesimal when compared to, say, the chances of death in an airplane crash or a tornado. We've heard of people who died in tornados or plane crashes, but who was ever killed by an asteroid? Little ones, meteorites, make streaks in the night sky. Bigger ones may occasionally make a hole in a corn field somewhere. But asteroids never *kill* anyone, do they?

As it turns out, odds are about 2.4 times *greater* that you will be killed by an asteroid or comet than by an air crash or tornado, both taken together. Asteroids are surprisingly dangerous. If a big one hit the Earth at the wrong place, it could kill many people. And a sufficiently big one could kill *everyone*.

Last June at San Juan Capistrano, California, about 200 scientists met to discuss the dangers and technological fixes for the problem of killer asteroids. Two scientists, Clark R. Chapman and David Morrison, reported application of the techniques of risk assessment to the risk of death from comets and asteroids. Their conclusions are both surprising and frightening. They estimate that over a 50-year period, the chances for a given individual of death from asteroid or comet impacts are about 1 in 6,000. This compares to 1 in 20,000 odds for death in an airplane crash, 1 in 50,000 for death in a tornado, 1 in 5,000 for death by electrocution, and 1 in 2,000 for death in a firearms accident.

The probability of death-by-asteroid is so large, of course, because the calculated odds are the *product* of the chances of an asteroid strike (small) and the number of deaths predicted to result from it (very large in some cases). We are coming to the realization that both we as individuals, and the human species as a whole, are running a significant risk of extinction. All of our eggs are in one basket, and the Solar System is throwing large rocks at that basket.

Consider some examples. In 1908 Comet Encke was making a close pass near the Earth. It is believed that a 100 meter (m) diameter chunk of ice from Encke broke off and plowed into the atmosphere over the Stony Tunguska River in Siberia. The result was an airburst explosion liberating the equivalent of 600 Hiroshima-size nuclear bombs, so much energy that sensitive instruments around the world recorded the resulting shock waves. Trees in the Siberian forests were leveled for dozens of miles around, and horses 400 miles

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

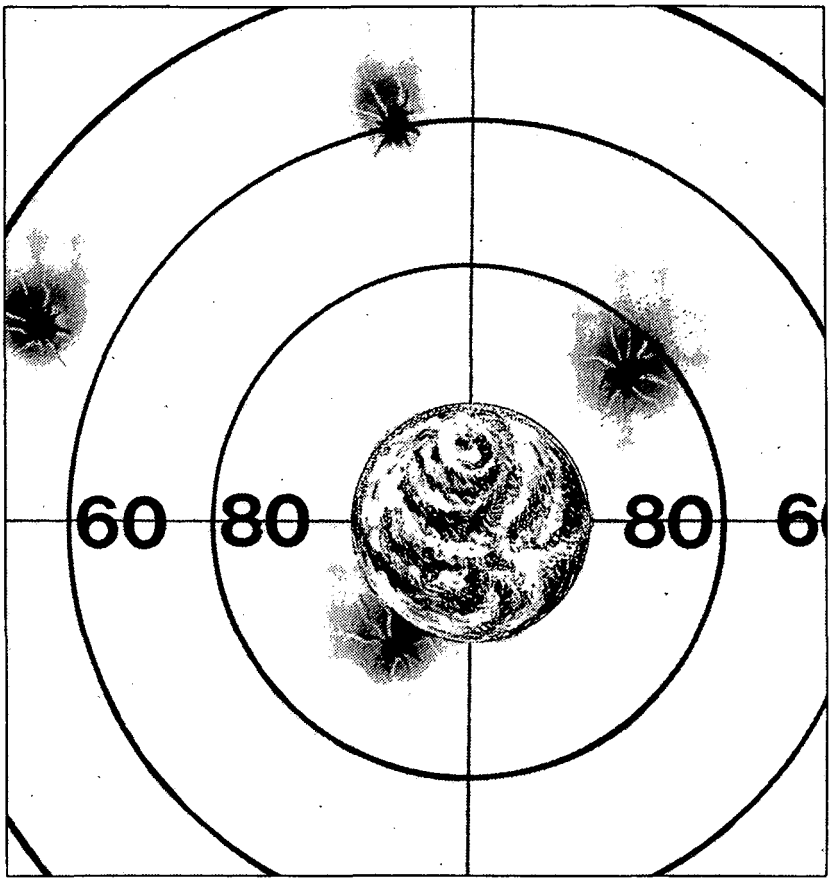


Illustration © 1991 by William R. Warren, Jr.

away were knocked from their feet. There was no known loss of human life, but this is only because the impact site was so isolated. If the same ice chunk had, by chance, struck over a major population center, Tokyo, or New York, or Bombay, mega-deaths would have resulted.

The Tunguska ice chunk exploded in the atmosphere leaving no crater. An equivalent stony asteroid would make a crater about 20 asteroid-diameters across and about 5 asteroid-diameters deep. The energy liberated increases as the cube of the asteroid diameter. About 5,000 years ago a chunk of rock from space, perhaps 50 m across, struck near what is now Winslow, Arizona, leaving

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a crater one kilometer (1 km) across and liberating an energy equivalent to 500 Hiroshima bombs. In Australia an 8 km asteroid made a crater 160 km across, and in Ontario a 10 km asteroid made a crater 200 km in diameter.

Asteroid strikes in this size range have devastating consequences. The work of Luis and Walter Alvarez and their group has produced a growing body of evidence that about 65 million years ago an asteroid about 10 km in diameter struck the Earth and killed most of the plant and animal life on the planet, including all of the dinosaurs. There is little doubt that a similar event today would kill most or all of the human species.

In all there are 131 confirmed asteroid craters on the surface of the Earth, and that number is growing at about 5 per year as more are discovered. Exploration of the Solar System with unmanned spacecraft has revealed the dramatically cratered surfaces of many planets and satellites, from Mercury to the moons of Uranus. On a clear night our Moon, which presents a target area 14 times smaller than Earth's to wandering asteroids, shows many thousands of impact scars that have not been erased by weathering, as they have on the Earth.

And there have been near misses. In 1972 an asteroid perhaps 100 meters in diameter, twice the size of the object that produced the Arizona crater, dipped into the upper atmosphere over the northern USA and Canada before continuing on its way through interplanetary space. Thousands saw the spectacular fireball that it made in the sky. In 1989 an asteroid with a diameter of 800 meters crossed the Earth's orbit, passing through the position that the Earth would occupy just 6 hours later. And in January of 1991 an object perhaps 10 meters across missed the Earth by about 200,000 km, about half the distance to the Moon.

In 1932 it was discovered that asteroid number 1862, which was given the name Apollo, had an orbit that periodically crossed the orbit of the Earth. Since that time, many other asteroids with similar orbits have been identified. As a group they are called the *Apollo asteroids*. It is a fact of orbital dynamics that an object in an Apollo-type Earth-crossing orbit has many chances to strike our planet.

The population of Apollo asteroids is increased because the Solar System contains a celestial slingshot that points in the general direction of our pretty blue planet. Once in a while it hurls a killer asteroid in our direction.

If you examine the asteroid belt between Mars and Jupiter closely, in regions about 2.5, 2.8, and 3.3 astronomical units (Earth-orbit radii) from the Sun, you will find empty zones, stripes where no asteroid orbits exist. These stripes are empty because at just these distances the large gravitational pull of Jupiter has a cumulative effect, producing orbital deflections that build with time. The empty zones are called the *Kirkwood gaps*. They correspond to distances where there are orbital resonances because the ratio of the asteroid's orbital period to Jupiter's is 1:3,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

2:5, or 1:2, respectively.

The result of Jupiter's additive pushes is *chaos*. In a Kirkwood gap the asteroid's orbit is hypersensitive to small variations in orbital parameters, and it is propelled into another orbit in some unpredictable direction. There is a good chance that it will make the long dive into the inner Solar System and become an Apollo asteroid. Computer simulations of this mechanism account for about the number and direction of chondritic meteorites that are observed to fall on the Earth. The Kirkwood gaps of the asteroid belt thus form a sort of celestial slingshot pointed at the Earth, with a good supply of ammunition on hand from the asteroid belt itself. It is estimated that about 500 asteroids with diameters of 1 km or more are presently in Apollo-type orbits. There are perhaps a dozen with diameters of 5 km or more, the size of large mountains. The latter are in the dinosaur-killer class and could do for us what the Alvarez asteroid did for the dinosaurs.

From a broader viewpoint, asteroid strikes might not be altogether bad. I suggested in a previous AV Column (*Analog* 1/86, "The Pump of Evolution") that the average rate of irregular extinctions of species from asteroid strikes might be peculiar to our Solar System, and might have driven the progress of evolution on Earth at a much faster rate than might be the case for an otherwise Earth-like planet that lacks such a "pump." Asteroid bombardment of Earth from the Kirkwood gaps might be the reason we are here at all.

* * *

Our civilization has shown an increasing unwillingness to assume risk. There are growing demands for "absolutely safe" pharmaceuticals, automobiles, nuclear power plants, and working environments, as certified by some burgeoning federal bureaucracy. If each of us is running a lifetime risk of 1 in 6,000 of being killed by a rock from space, can that risk be considered acceptable? Let's assume that it is not. Then what can be done to reduce the risk to an acceptable level?

The first thing required is information. Up to now most of the Apollo asteroids that have made close passes to the Earth have been detected *after* they have gone by. NASA currently spends less than $1 million per year in searching for Earth-crossing asteroids. A single 36-inch telescope at Kitt Peak equipped with a specially designed electronic detector is used in this search. The largest Earth-crossing asteroid that has been tracked so far is about 10 kilometers in diameter, just the size of Alvarez's dinosaur killer. But there are many more out there about which we know nothing. And the resonances in the Kirkwood gaps are always adding more. Clearly we need to increase our investment in the technologies that can locate hazardous asteroids months or years before they come our way. A well-conceived and well-funded program for placing special asteroid-finding telescopes at sites on the Earth, in space, and perhaps on the Moon could locate perhaps 95% of the Earth-crossing asteroids in the next decade. Then we could at least make a reasonable as-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

sessment of risk.

But there must also be a way of dealing with an asteroid hazard, once it is detected. Can killer asteroids be deflected from incipient collisions with the Earth? In works of science fiction about asteroid and comet strikes, the traditional method of dealing with the problem is to launch nuclear-tipped ICBMs at the incoming menace a few hours before impact, so that the protagonists can save the Earth in the nick of time, as it were. Unfortunately, this is a flawed strategy. It is easy to deflect the dangerous object when it is moving slowly and is far away. It is nearly impossible when the object is fast and close. And a nuclear warhead may do more harm than good. Breaking up the rock into several smaller rocks, all of which strike the surface, is like MIRVing a nuclear warhead and would probably do more net damage than if the large object had remained in one piece.

On the other hand, early detection of a dangerous asteroid provides a sizable advantage. A small robot space vehicle could be dispatched to rendezvous with the asteroid and to apply the gentle persuasion of a small velocity change to steer it into a safe orbit. This could be done with a small ion engine, or perhaps with a light-sail reflecting sunlight and/or laser pulses beamed from Earth. Nuclear bombs might also do the job, but since the strength and rigidity of the lump of rock to be steered would be unknown, it is likely that a small and continuous applied impulse would be preferable to the large, short impulse from a bomb. Perhaps we could even "tame" a dinosaur-killer asteroid by steering them into a near-Earth orbit from which it could be mined for raw materials for space-based engineering projects. NASA, always on the lookout for expensive new projects to keep its standing army of bureaucrats and engineers at full employment, is studying the asteroid problem. You can expect to hear more soon.

I should also comment on the downside of asteroid-steering technology. What can be deflected *away* from the Earth can also be deflected *toward* the Earth. The nation or group that becomes the master of the technology can not only protect the planet but can also apply persuasive extortion to other nations, selling them "insurance" against asteroid strikes that might otherwise "accidentally" hit their population centers. Larry Niven and Jerry Pournelle's *Mote in God's Eye* described an alien civilization that had made war in just this way.

So it seems to come down to the old problem. We need protection from cosmic accidents. We need a dedicated group who will watch the Apollo asteroids and deflect them away when necessary. But who is to watch the asteroid watchers?

A final note: this column marks an anniversary of sorts, in that it is my 50th Alternate View column for *Analog*. My first column, on the subject of magnetic monopole induced proton decay, appeared 7 years ago in the July, 1984 issue. *Analog* has provided me with a wonderful soapbox from which to describe new and interesting physics, and I've enjoyed it. I hope you have.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

REFERENCES

Asteroids and Impacts:

The New Solar System, J. K. Beatty, B. O'Leary, and A. Chaikin, eds., Sky Publishing Company, Cambridge, MA (1981).

William J. Broad, The *New York Times*, page B5, June 18, (1991).

"Chicken Little was Right," R. Clark, R. Chapman, and David Morrison, *Discover*, May (1991).

The Resonances in the Asteroid Belt:

R. A. Kerr, *Science 228*, 1186 (1985).

■

IN TIMES TO COME

● As human beings learn to take more and more control of their lives, they are forced to rethink what they mean by such words as life and death and human. Next month we begin a memorable and thought-provoking four-part serial by Roger MacBride Allen about such a rethinking that might well occur not too far in our future. On the face of it, it's a murder mystery—or is it? That depends on whether what happened was murder. The law provides little precedent for a case in which the victim's body is dead but his mind may (or may not) survive in the machine accused of killing him. On the face of it, a vacuum cleaner on trial for killing its owner may sound like a joke; but while *The Modular Man* is highly entertaining, it is anything but farcical or frivolous. Its characters and the questions they confront will stay with you long after you've read it.

Our February issue will also offer a fact article on genetic therapy by Dr. Mark S. Lesney, and a wide variety of fiction by such writers as Eric Vinicoff and Stephen A. Kallis, Jr.

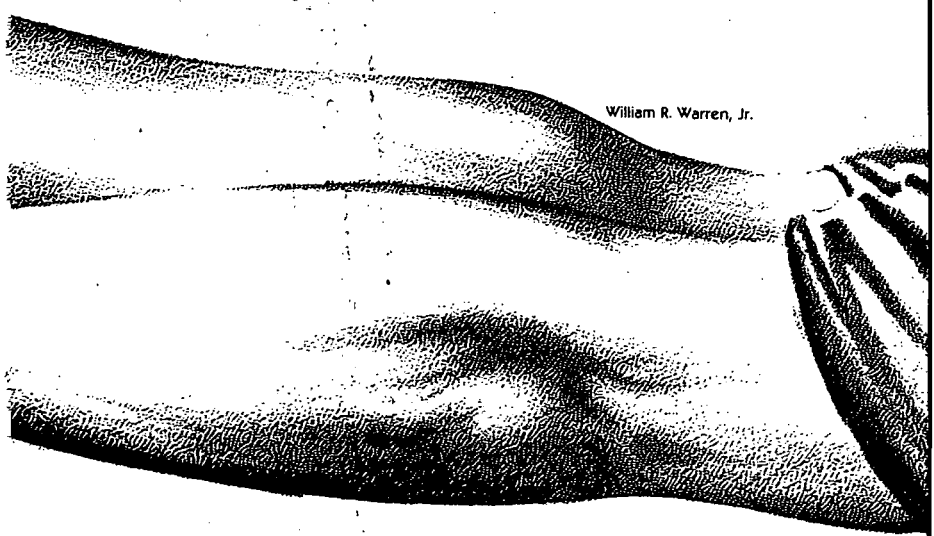
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO SMZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

AN EVENING AT DEMPKE'S

Janet Lorimer

"If you're not part of the solution. . . ."



William R. Warren, Jr.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I'd just gotten home from work when Lisa announced that she wanted to drive over to Dempke's to visit her dead father. It was Friday and I'd planned to pop open a beer, put my feet up, and watch the news, but Lisa had that look on her face and I couldn't say no.

"You want to buy a flower first?" I asked, taking out the car keys I'd just pocketed.

She shook her head and held up a paper bag. I thought it looked awfully heavy. "What's in there?" I said. "A potted plant? You know you can only put one flower by the urn."

She nodded and headed for the car, rather hurriedly, I thought, and I realized she hadn't answered my questions. But there was that look on her face and I didn't want to probe for fear we'd start to fight or Lisa would break down in tears.

Sam had died a little over a month before, quietly in his sleep, as uncomplaining about shedding life as he'd been about living it. Lisa wasn't prepared for his passing. She knew, in the reasonable way we all know, that death is inevitable, but I think in her heart she believed that Sam would live forever.

Sam wasn't prepared for his death either. He left no insurance, very little savings, and no way of paying for the funeral. I'd sprung for the best Dempke's offered. I didn't tell Lisa how I paid for it, but whenever she talked about the money we were saving for a down payment on a house, I changed the subject.

I didn't regret my decision. I'd liked Sam; he was a decent man—quiet, hard-working, and non-judgmental of me, qualities not shared by his wife. I think he liked me, too; at least he respected me as much as I respected him.

If I could have given him a better send-off at Roseland's Peaceful Gardens, I would have, but the most we could afford was Dempke's. In that we were not alone. Dempke's chain of mortuaries had become an institution in our part of the country. Dempke's motto was—if you can believe it—"You do a good deed when you fill a need."

People paid a price for having Dempke fill their needs, but the logic behind all Dempke's enterprises was this: Keep the cost low, the service quick and convenient, and you'll never lack business.

As for the good deed, he was lining his pockets with the proceeds. He'd built himself a fancy house in the better part of town, bought a membership in a posh, exclusive countryclub, and put his son through Harvard, where the boy had graduated with honors, as some kind of scientist. Now Dempke's kid had a position on a government task force studying alternative sources of energy. Not bad for a man born—as they used to say—on the wrong side of the tracks, who sported perpetual five o'clock shadow and had a penchant for plaid bow ties.

Lisa hugged the paper bag to her when we got in the car and I began to have a funny feeling about it. She was a Scorpio, stubborn and secretive about the oddest things. I prayed she wasn't going to make a scene, insisting on putting a whole damned plant next to her daddy's urn.

At Sam's funeral, my wife held up pretty well until the end. Then she broke

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

down, throwing herself across her father's body, weeping hysterically. It took me and the mortuary man to pull her off.

"I can't let him go," she screamed through her tears.

"Stan's gone to a happier place, Mrs. Wisotsky," Dempke's rep said in a soothing voice.

Lisa stopped screaming, stared at him in shock, and said, "Sam. His name was Sam."

"Oh, yes, Sam." He winced apologetically. I gave him a disgusted look and turned Lisa over to her mother for comforting. Lisa buried her head on her mother's shoulder and sobbed. Gloria glared at me and hissed, "This isn't how they do things at Roseland."

Dempke had started his business career about thirty years ago on a small scale, with a couple of laundromats. He plowed the profits into a handful of self-service gas-stations. When he added a chain of drive-through convenience stores, he began to pull ahead of the competition by filling the needs of a society on the go, that each year demanded faster, more convenient services.

Dempke left his competition far behind when the state decided that graveyards used up too much valuable land and people must be cremated instead. He created Dempke's Mortuary & Hallowed Arch Drive-Through—over ten thousand satisfied souls—and within four years the landscape was dotted with hallowed arches.

The funeral service was held in a chapel-like room with fake stained glass windows and leatherlike vinyl chairs. The walls were well insulated, the carpet plush and speakers piped in synthesized organ renditions of "Rock of Ages" and "Nearer My God to Thee." There were a dozen such rooms at Dempke's, so he could move the dearly departed through in bulk. Trouble was, between the sounds of the mourners mourning and the crematorium cremating, noise was never completely eliminated. You didn't have a sense that your late lamented would have much Eternal Peace.

The body, dressed in its best, was laid out on a gurney that was disguised by a black velvet cloth so you'd forget how soon it would be wheeled out after the last "amen." Coffins had gone out of fashion along with graveyards, and Dempke cut corners by eliminating them. He kindly passed the savings on to the consumer.

The service always began on the hour. One of Dempke's people delivered a eulogy that I bet never varied, except for changing the name of the deceased. The mourners were invited to file by the body to bid a final farewell, and finally, the living were shepherded into an adjoining room for coffee and cookies, a watered-down version of a wake, while the deceased was quickly wheeled to the crematorium. By the time you'd eaten a couple of cookies and polished off a cup of instant coffee, the body had been reduced to ashes, the chapel made ready for the next group, and a new funeral was underway. The whole affair took less than an hour.

That was the median-with-some-frills funeral. For the super supreme, the room smelled like a damned hot house, you got an additional hymn—"Shall

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

We Gather At The River"—and the coffee was freshly brewed. I didn't want to know what the budget-with-no-frills entailed, maybe a kind of "rub-a-dub burn/into the urn." Lisa says I'm a sarcastic bastard.

"Jerry, I don't think Daddy's happy," Lisa said as we backed out of our parking stall. I glanced at her, startled. She stared straight ahead, her lower jaw stubbornly thrust out.

"Your father is dead," I said. "Honey, remember what the guy told you the day of the funeral, that Sam's in a better place. You've got to hold on to that sentiment."

"That idiot. He didn't even remember Daddy's name," she said angrily. "What kind of parting was that?"

I wanted to say that it was the best we could afford, but I kept quiet. Lisa would have to come to terms in her own way with losing Sam; nothing I did or said seemed to help.

"Poor Daddy," she went on mournfully, "locked up all day in that awful Dempke's vault. It's like living in a condo, Jerry. Daddy hated living in a condo."

That made me wince. At least my in-laws had owned their own home, even if it was a condo.

When the state made cemeteries passé, they decided the land would be better used for affordable housing.

Affordable house, now there's a laugh. I'd figured out once what it would cost to buy a house; with both Lisa and me working full time, giving up any plans for having a kid, using public transportation and abstaining from food, I calculated we'd have the down payment by the time I was fifty-three. Needless to say, we were renters and it looked like we'd stay renters all our lives.

Dempke was behind the condo deal, too, and rumor had it that he was bidding on a second graveyard site on the other side of town. I wondered what he'd try next—drive-through hair salons?

"Daddy always wished he and Mother lived in a place with more trees. He said trees help renew the ozone layer." Lisa breathed a heavy sigh.

"Sam was a fine person," I said, feeling more and more helpless. "Very conscious of the environment."

I felt Lisa's glare. "Don't patronize me," she said. "I'm trying to make a point. I wish we hadn't gone through Dempke's."

"Lisa, I'm sure your father has forgiven us."

"Mother hasn't," Lisa said. "She says if we'd gone through Roseland, we could have scattered Daddy's ashes in their garden."

I gritted my teeth. "Your mother has some amazing ideas, considering she didn't have to foot the bill."

I silently vowed that when my mother-in-law shed her mortal coil, I'd see to it that she got the Dempke's no-frills funeral if it was the last thing I did. Lisa and I didn't speak again until we reached the drive-through.

If Dempke's funeral service was fast, the follow-up visits to the dearly departed rivaled the speed of light. The way it worked was this: You drove into line and waited your turn. When you

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

reached the Hallowed Arch, you stopped your car.

You inserted a plastic card, encoded with your special customer number, into a slot in the wall. There was a shadowbox, covered with tinted glass, next to the slot. Once the computer read your number, the glass slid up and a light went on. The urn appeared, carried to the shadow-box on a conveyor belt, while a hidden speaker piped in "Amazing Grace." You had three minutes to insert your flower in the little vaselike attachment, give the dearly departed a pat on the urn, and tell it how much you missed its contents. The music ceased, the light went out, and down came the tinted glass. Simplicity itself.

The chords accompanying "blind, but now I see" triggered a horrifying thought within me. I turned to look at Lisa and started to say her name as she reached into the bag. Lisa whipped out an urn and faster than I could shout, "Stop," she'd pulled Sam's urn into the car, and replaced it with the one she'd brought.

I thought the strains of "Amazing Grace" wavered a little during the switch, but I wasn't sure. "Let's go, let's go," Lisa cried, straining forward in her seat.

I stepped on the gas and the car jerked ahead, nearly scraping the wall of the Hallowed Arch. Lisa yelled, "Look out." I slowed, realized I was shaking all over, and managed to get the car and us back on the street without doing any damage. Halfway down the block I found a place to pull over.

"What the hell are you doing?" Lisa yelled. "Keep going."

"No," I said. "Not until you tell me why you switched urns." The answer came to me as she smiled that sly Scorpio smile. "You're going to spread your father's ashes at Roseland," I exclaimed.

She shook her head. "Can't. The Roseland garden is used exclusively for people who buy Roseland funerals. Mother and I decided on the city park."

"Ah, Jesus." I slid down behind the steering wheel, my hands over my face.

"Why not?" The lower I slumped, the higher she sat. "It would be perfect. Daddy would love it."

"Have you forgotten about the litter laws?" I yelled. "There are guards all over that park, patrolling day and night. What're you going to tell them? 'Oh, don't mind me, officer, I'm just fertilizing the lawn with my father?' "

"Well . . . " It was her turn to slump a notch. "Ok, we'll find some other place. Maybe the beach. Daddy liked the ocean, too."

"I'm glad for him. Lisa, there are laws about stealing bodies—"

"Daddy's not a body," she cut in. "Remember?"

"I'm not going to argue semantics with you. There are laws about stealing the departed, no matter what form they take."

"How will they find out?" she said slyly.

"Because that wasn't a Dempke urn, Lisa. It didn't have his motto stamped on the side, and sooner or later someone's bound to notice."

She pouted, something she does when she's scared and doesn't want to show it. God knows, I was scared. I wondered how long it would be before

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cops came pounding on our door. "I don't care. I'm not giving Daddy up," my wife said, hugging Sam's urn protectively to her bosom.

I drove home slowly, wondering what the hell to do now. Lisa would never relinquish Sam's ashes, no matter how many laws she broke. That was what gave me the answer: Sam's ashes.

"I've got an idea," I said, as we pulled into the parking garage. "How about if we put your father's ashes into a different container and put the urn back? If we're lucky, no one will ever know the ashes are missing."

Lisa squealed for joy and threw her free arm around my neck. Sam's cold hard container pressed against my chest. "Let'd do it right away," she said breathlessly. "I'll find something to put Daddy in. What do you think, maybe that carved jewelry box you gave me for Christmas?"

I felt a little hurt, and I almost said, sarcastically, that an empty pickle jar would work as well, but I realized that Lisa wanted only the best for her father, so I just nodded. Lisa went to get the box but the phone rang, so she answered it instead. I wandered down the hall to our bedroom and overheard a little of the conversation, enough to know that the caller was my sainted mother-in-law, phoning to see if the deed was done.

Lisa and her mother were not known for short conversations, and I was feeling antsy. The gates, protecting the Hallowed Arch from vandals, would come down in about forty-five minutes; I wouldn't get another chance till tomorrow morning. I knew I wouldn't sleep tonight if I didn't get that damned urn back in place.

I emptied Lisa's jewelry from the wooden box and pantomimed what I was about to do. My wife nodded. "What about the beach, Mother? We could take the bus out on Monday. I know it's not close enough for frequent visits, but I'd sure Daddy would understand."

I grinned and went back to the kitchen. I opened the urn and tilted it to pour the contents into the box and froze. The damned urn was empty.

I stood there staring at the inside of the urn for at least a minute, while my mind tried to take it in and calculate it. What had happened to poor old Sam? A couple of answers occurred to me, like maybe Sam had been spilled by accident or an errant fan had blown him to kingdom come, but like I said, I tend to be a sarcastic bastard. If Lisa discovered this, the scene she'd made at the funeral was nothing compared to the scene she'd make now. I needed some ashes, and fast.

I ran to the window and looked out at the trash bins in the alley below. Tonight was trash collection night, but the trucks didn't always come on time. Maybe the bins were still full.

When the state realized it was being buried under its own garbage, the legislature turned to private enterprise. Again, Dempke came to the rescue, bidding the lowest for the trash collection and disposal contract. He installed specially colored bins so trash and garbage were easily sorted. There were blue bins for metal, red for food scraps, white for glass, yellow for plastic, and purple for paper.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

I tore downstairs to the alley, unlocked the purple bin, and saw I was right; it was full. I pulled out a bunch of old newspapers and raced back upstairs. Lisa was still on the phone. "No, Mother, I definitely don't think we should tell Aunt Ruth what we're doing. I don't think we should tell anyone. There are laws against stealing. . . ."

I carried a metal waste basket and the newspapers into the bathroom, closed the window, and turned the fan and air conditioner on full force. Then I started shredding and burning the paper. It was hell. Neither the fan nor the air conditioner could accommodate the smoke fast enough and pretty soon my eyes were watering worse then they did in smog. Thank god we didn't have a smoke alarm in the bathroom. I mashed the ashes as fine as I could and poured them into the jewelry box. I had no idea how much equated our late Sam, but then, I guessed, neither did Lisa.

The room and I stank. I sprayed the room with air freshener, and myself with deodorant, aftershave, and cologne. I opened the window, slumped against the wall and marveled at my duplicity. Then I looked at my watch. I barely had time to get to Dempke's to make the switch.

Lisa was hanging up when I walked into the bedroom to tell her I was leaving. "Mother's not real happy with the beach idea," she said. "She wants us to think of some place closer so she can visit Daddy whenever she likes."

"Hell, she can keep him on her mantel for all I care," I said, leaning over to kiss Lisa's forehead.

She pulled away, making a face. "What's that strange smell?"

"The smell of fear," I retorted, which wasn't quite a lie. "I'll shower later. Now I've got to get over to the Hallowed Arch."

She drew her breath in sharply. "You—"

I placed the wooden box in her hands. "Here's your father. Take good care of him while I'm gone." Then as she started to open the lid, I exclaimed, "For god's sake, Lisa, show some respect."

She closed the lid in a hurry and said she'd start dinner.

I got to the Hallowed Arch with five minutes to spare. There were two cars ahead of me. I prayed my watch was fast, but just I approached the Hallowed Arch, down came the gate and a taped voice on the loudspeaker announced, "Visiting hours are over. We will reopen at eight in the morning. Remember, visiting hours are from eight to eight, Monday through Saturday, and from twelve noon to four on Sunday. Thank you and have a good evening."

I punched the steering wheel in frustration. I was not going to have a good evening if I didn't get that damned urn back in its slot. I told myself that I was being an idiot, that no one would notice the switched urns before tomorrow morning. Then I remembered that the flower from one visit was always gone the next time we arrived, and the urn was brightly polished. Someone must take care of them. Besides, even outdoors I could hear the low rumble of machinery in the crematorium. I didn't think the process was automated, so that meant people were still working inside.

By this time I'd backed out to the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

street, but at the last minute, I pulled over to the curb. I had decided to go to the main office, knock on the door and come clean. Maybe they'd be willing to forget the whole thing, especially if I offered a small br—uh—donation.

When I reached the front door, I peered through the glass; the reception room was dark. I decided to look for a back entrance.

The mortuary was surrounded by a high wall. I followed it to the rear. Just before I reached the alley that ran behind the building, I saw a line of Dempke refuse trucks turn in. It seemed strange that Dempke had so much garbage, he needed half a dozen trucks to collect it. Very strange. I poked my head around the corner to see what was going on.

There was a wide gate in the wall through which the men were wheeling bins. The ones they unloaded from the trucks had to be heavy because it took two men to push each one and I could tell they were straining. However, the ones they loaded back onto the trucks were so light that a single man pushed each one easily. They weren't collecting trash, they were unloading it.

That made no sense. Unless—Dempke, I thought with a grin, you conniving old vulture. It sure looked like he was getting rid of the city's trash by burning it in his crematorium. I was pretty sure that was against the law. And if people found out, he'd lose a hell of a lot of business. No one would be able to tell if the urn was filled with Uncle Mort or last week's leftovers.

I knew I had to get into the building, not only to replace the urn, but also to satisfy my curiosity. I waited till the last truck rolled out of the alley, then I sneaked through the gate.

Inside there was a small cemented area with a loading dock and heavy duty double doors leading into the building. I tried the knob and to my surprise, the door opened. Dempke must be expecting more loads of trash tonight. I eased through the opening and found myself in a broad, well-lighted, air-conditioned corridor, but despite the cool air, I felt heat rising through the floor. The crematorium/incinerator must be going full blast.

Something heavy clamped down on my shoulder. I yelped and jumped a foot off the floor. Glancing over my shoulder I saw a muscle-bound ogre, about ninety feet tall and ten feet wide, wearing a guard's uniform. Of course he wasn't as large as my terrified senses told me, but he was big, very big, and he didn't look happy to see me.

"Who—" he started to growl but I didn't wait. I began spinning out my story, determined, by god, to tell the truth, or most of it.

"My wife took her father home because she was upset because he liked trees, and I knew she was breaking the law, so—"

The mean look dissolved into one of confusion. When he saw the urn I held, he said, "You better come with me, buddy."

He put a beefy paw under my elbow, nudged me a little further down the corridor, and opened a door. Inside, seated behind a wide desk, was the fill-a-need god himself—Dempke. I'd never seen him in person; he looked smaller in real life than in his TV ads, but I recognized the five o'clock shadow and bow tie.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The guard explained that he'd caught me in the hall. He gestured to indicate he thought I was a nut case.

Dempke sighed. "Do you have a name?" I told him. "How did you get in here?" I told him that, too, and he glared at the guard. "What do you want, Mr. Wisotsky?"

I started my story from the beginning, this time making it coherent. Dempke listened. Sometimes he grinned and sometimes he clucked. When I got to the part about seeing the trash bins unloaded, he raised an eyebrow, and when I stumbled over the part about using this information as a trade-off, the other eyebrow went up.

"Is that your father-in-law?" he asked, nodding at the urn.

I held it out and Dempke placed the urn on his desk. "OK, we're even. I'll forget that your wife took the urn and you forget what you saw. Is it a deal?"

I said it was and we shook hands. "Take care of Sam," I said. Dempke nodded and asked the guard to escort me out to my car.

I was just leaving when I remembered the missing ashes, and how clean the inside of the urn was, without even a residue of ash. "What did you do with Sam?" I asked. "His ashes were never put in that urn in the first place."

For a couple of seconds, Dempke stared at me with his mouth open. Then he stood up. "You're much too smart for your own good, Mr. Wisotsky, and if I don't give you a satisfactory explanation, you'll try to find one, won't you? Lucky for you I understand your curiosity. That's part of what's gotten me where I am today." He stepped out from behind his desk and gestured for me to follow him. We walked down the corridor to an elevator that took us to a lower level.

When the doors opened, a blast of heat hit me in the face, like something out of Dante's Inferno. I stepped out of the elevator and stopped in amazement. We were in a huge cavern-like room, filled with machinery and conveyor belts, garbage bins and workers. The noise was deafening. I only had time for a quick once-over glance because Dempke tapped my arm and gestured for me to follow.

We entered a small room, this one sound-proofed. The furniture wasn't fancy, but at least we could talk without shouting. There was a plate glass window in one wall so we could watch the workers loading trash onto the conveyor belts. Dempke motioned for me to sit down and he began to talk.

"You know my motto, it's plastered all over the state." I nodded. "Well, one evening a few years ago, my son and I were kicking around the problems of alternative sources of energy. What we now have—coal and oil—they're nonrenewable, but people are addicted to them. No matter what happens in the Middle East, no matter how high the price goes, people can't wean themselves from petroleum. As for other sources, there are lots of problems. We're still years away from using solar power or wind energy on a large scale, and nuclear power has never been popular, especially with the environmentalists."

Dempke reached into a small refrigerator, took out a couple of beers, and handed one to me. We popped them companionably and he went on. "Ju-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

nior was griping about how much trash we produce each day, but when it comes to burning the stuff to produce energy, the environmentalists raise another fuss. And yet, that's a source of energy that makes real sense. Figure it, Mr. Wisotsky, as the population increases, so does the amount of trash it produces. We're choking our landfills to the point where we've tried to dump the stuff on Third World countries."

He took a pull on his beer. "It isn't that we don't have the capability to produce electricity by burning trash. We do and the process works. What adds to the price tag is the legal maneuvers of the conservationists. Too bad we can't leash the hot air they produce. Now that would be a great source of energy."

He gave me a sour grin. "I'd just gotten the trash collection and disposal contract, so I knew what my boy was talking about. The environmentalists scream about the carbon dioxide that's released when we burn trash, but did you know that decomposing trash in landfills generates the same gases?"

I shook my head. You learn something new every day. In fact, over the next fifteen minutes I learned more about recycling trash than I'd ever wanted to know.

According to Dempke, Americans recycled less than 20 percent of their garbage, which left a lot of trash to dispose of. Even if we could raise the recycling level to 100 percent, like the environmentalists wanted, the products made from one year's worth of trash would flood the market to such an extent it would create an economic disaster. Worse, what would we do with next year's recycled products?

That brought us back to square one, burning the stuff to produce electricity. For every ton of trash burned, Dempke told me, a barrel of oil was saved. Furthermore, the landfills handling the ash that was produced by burning the garbage took longer to fill, were environmentally safer, and were ultimately more stable to build on, thus producing valuable real estate. He even waxed poetic on other uses he'd found for the ash, such as manufacturing road building materials, and he figured that was just the beginning.

It didn't take a genius to see how Dempke was getting rich from all this. His ideas lent new meaning to the term "entrepreneur," and I would have liked to have learned more. Still, we were digressing. "About Sam," I prompted.

Then suddenly, to my horror, it all came together—the crematorium, the trash, the empty urn. I staggered from my chair to the window to get a better look at those conveyer belts. That's when I noticed the one carrying shrouded forms toward the giant shredder. I'd been right after all, only it wasn't a question of either/or. It was Uncle Mort *and* last week's leftovers, all mixed together. I swallowed hard, not trusting myself to speak.

Dempke joined me at the window. "I guess you've figured it out, haven't you? Well, you're right. That same night, while my boy and I were talking about recycling trash, we got to talking about bodies. It's all raw material, you know. Organic grist for the energy mill, you might say."

He caught a glimpse of my complexion reflected in the glass and chuckled. "Sorry, guess that's a little macabre.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

But think about it. When it comes to death, our society—hell, the whole world—is damn near Neanderthal. We accept that prehistoric plants and animals were turned into petroleum. Does anyone flinch when they turn the lights on? No, they don't think about what their electricity is made of. By the way, you might be interested to know that the electricity we produce from burning the—uh—raw materials is enough to run our plant as well as add another 5 percent to the city's power grid. The utility company is more than happy to buy what I produce. I meet the electrical needs of thousands of homes."

He tweaked his bow tie with pride and, queasy as I felt, I realized that what he was doing made sense. Still, the idea of recycling bodies. . . . Then I remembered that I, the sarcastic bastard, had once observed that honey is nothing more than bee barf, to which my wife replied that I was rude, crude, insensitive and disgusting, and she refused to ever touch honey again.

"When people die," Dempke went on, "we all agree that the essence of the person is gone from the body. Call it a soul, call it the life form, whatever. It's gone, but we want to hang onto the body. That's like eating a candy bar and saving the wrapper. No one saves candy wrappers, but we save the wrappers we call bodies. What's the point? What I'm doing is to make that wrapper a useful item. Think of it. No matter what you did in life, in death you have merit. Your body is valuable."

Curiosity is a great antacid. "What do you do with the rest of the trash?" I asked.

Dempke grinned. "Most of the plastics can be melted down to make into all kinds of new things. I'm opening a drive-through furniture store next month. Come down to the grand opening. You'll love the plastic lawn chairs we've designed."

"I don't have a lawn," I said sourly.

"I'm sorry to hear that. We were talking about recycling. Glass, paper, and metals can be recycled, too. As for the food scraps, as you know, they're mixed in with—" He glanced at me to see what color my face was.

"I get it," I said. "Is any of this legal?"

He scuffed his toe back and forth on the floor, studying it intently. "It's not like they issue permits for this sort of thing, but I have several sympathetic ears in the legislature."

"What now?" I asked. Dempke looked a little puzzled. "Are you going to let me go home after telling me all this? And while we're at it, why *did* you tell me all this?"

Dempke shrugged. "I guess I wanted to find out how you'd react. One of these days we're going to have to start a campaign to make people accept what we're doing. It'll take time, of course, but then, people didn't start talking about recycling till things became desperate—till garbage piled up, till the environment was threatened, till it became fashionable."

"You have to make it chic to recycle bodies?"

"Something like that. I'm not worried; it's all P.R. As for what I'm going to do with you—" He turned and motioned to the guard.

Suddenly my beer threatened to recycle itself upward. I should have known

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that Dempke couldn't afford to let me go now. "My wife knows I'm here," I said quickly. "If I don't get home soon—"

Dempke stared at me, then he began to laugh. "Oh, no, Mr. Wisotsky. You've got the wrong idea about me. I don't like violence. Besides, I have enough bodies without creating a new one. Read the obituaries if you don't believe me. When people aren't killing themselves or each other, they're creating more mountains of trash. Without knowing it, society is cooperating very nicely, thank you, to the point where I have to keep my machinery going twenty-four hours a day."

"Then what are you going to do with me?"

"You said you didn't have a lawn. Does that mean you live in an apartment?" I nodded. "Rent?" I nodded again. "I have some new condos going up on the other side of town. Would you like to own your own home, Mr. Wisotsky?"

I took a deep breath, grinned, and stuck out my hand. "Damn right," I said.

"Good." Dempke shook my hand. "And this little talk will be just between us?"

No problem.

Dempke's guard escorted me to my car, and as I drove away, I pictured Lisa's face when I told her what had happened—at least the bit about our condo. Then I thought of Sam and my euphoria vanished. Dempke had pointed out that whether you burn petroleum or trash to produce electricity, you still send a certain amount of carbon dioxide into the atmosphere. Lisa's father had wanted to clean up the environment; instead, it was fair to assume that part of him had gone to a higher glory, poking holes in the ozone layer.

As for the rest of Sam . . . I stared down the boulevard at the street lights, the blinking signs, and the glowing windows, and the hair rose on the back of my neck. Then Dempke's motto came back to me and I shrugged. Ah, Sam, even in death you light up my life. ■

●Thought is always in advance; it can see too far ahead, outstripping our bodies which are in the present.

Albert Camus

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Classified Marketplace

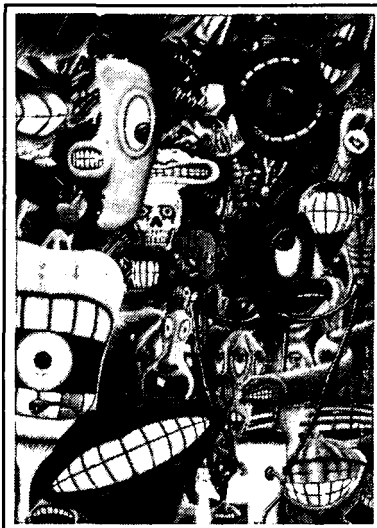
AN JANUARY/92

ANALOG/ISAAC ASIMOV combination CLASSIFIED AD rate is $6.50 per word—payable in advance—($97.50 minimum). Capitalized words 40¢ per word additional. To be included in the next issue please send order and remittance to I. M. Bozoki, Classified Ad Director, DAVIS PUBLICATIONS, INC., 380 Lexington Ave., New York, N.Y. 10017.

ADVENTURE

"LIVE THE ADVENTURE:" a stunning 3-color, full-size bumper sticker with original artwork. Send $3.50 to: Rogue Productions, PO Box 4972, Woodbridge, VA 22194-4972.

ART



"TEETH" By Tim Wilson

24" x 36" Color Art Print

$9.99

Send check or money order to:

Tree-Blind Publishing

P.O. Box 1012

Kingston, TN 37763

100,000 science fiction and mystery paperbacks, magazines, hardcovers. Free catalogs! Pandora's, Box Z-54, Neche, ND 58265.

BOOKS & PERIODICALS

PHILIP K. DICK Biography, "Divine Invasions," by Sutin, 1st Edition, hard cover, OP. $25.95 plus $2.00 shipping ($4.00 overseas). California residents add $1.90 tax. Tall Trees Books, P.O. Box 1996, Aptos, CA 95001-1996.

COMPUTERS & SOFTWARE

PLAY the quintessential computer maze game—Dungeon Thief. Simple, fun, for all ages/abilities. Full game $15, demo $3. For PC's/compatibles, color or mono. Specify disk (5.25", 3.5"). Check/m.o. to: Sente Systems, Inc., Dept. 27, Box 9439, Anaheim, CA 92812.

DRAGON CATALOG

FANTASTIC variety of decorative, useful, and wearable dragon items. Full-color catalog $2.00. Dancing Dragon - ANO, 5670 West End #4, Arcata, CA 95521.

HOBBIES & COLLECTIONS

PLASTIC Model Kits of Science Fiction and the unusual. Free catalog. John Green, 1821 West Jacaranda, Fullerton, CA 92633.

MUSIC & MUSICAL INSTRUMENTS

"ARTHUR" Volume One of the "Chronicles of the King" Trilogy: musical time travel to the Age of Chivalry by film and contemporary music composer E.B. Hirt. Chrome cassette: $12.50. Talking Horse Music, Box 49, Phoenix, AZ 85001.

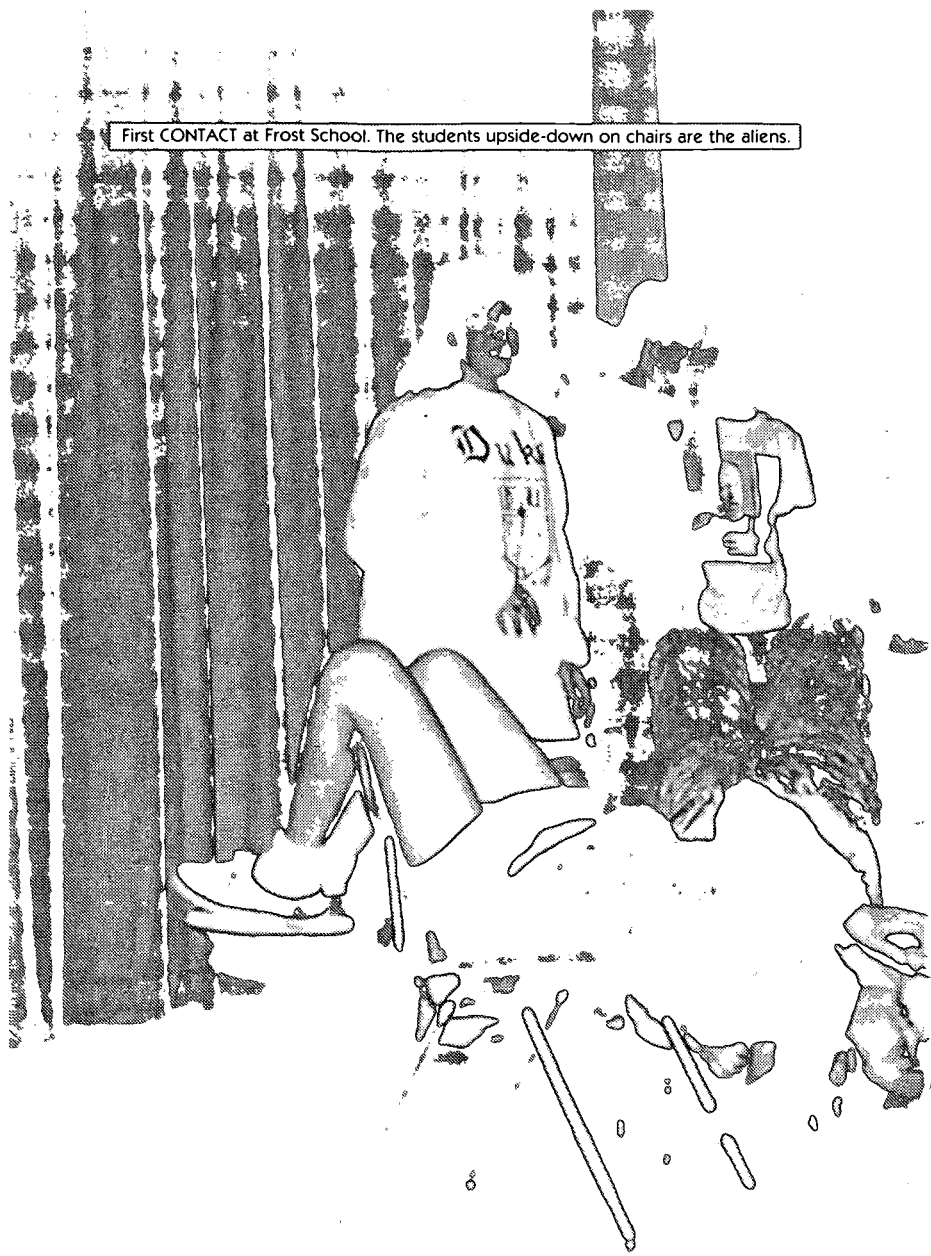
PHYSICS

PHILADELPHIA EXPERIMENT: Ship rendered INVISIBLE (1943). Thorough TECHNICAL details US$40. Alexander Strang Fraser, Box 991-H, Nelson, BC, Canada V1L 6A5.

TAPES & CASSETTES

OLDTIME RADIO PROGRAMS. Great Science Fiction! Also, mysteries, comedies, westerns. Free catalogue. Carl D. Froelich, Heritage Farm, New Freedom, Pennsylvania 17349.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



First CONTACT at Frost School. The students upside-down on chairs are the aliens.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

State of the Art

CONTACT IN THE CLASSROOM

Greg Barr

An exciting new teaching experiment uses the methods of science fictional thinking to help students learn about— everything!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"But Miss Cox," the young boy blurted out when his teacher interrupted the video program and asked the class for attention, "they've discovered *aliens!*" They, in this case, were the science fiction writers, scientists, and artists who made up the CONTACT conference teams; and the "aliens" the young boy was speaking of were a culture of their imagination.

CONTACT has been cooking up aliens and alien encounters for the past eight years. Based on that experience, CONTACT is now bringing Cultures of the Imagination (COTI)™ to the classroom in a program called "*COTI jr*" aimed at junior high school students. *COTI jr* begins with the screening of a video documentary about the 1987 CONTACT conference produced by the Los Angeles PBS affiliate, KCET, as part of their California Stories series. This particular conference highlighted the discovery of an alien life form on a hypothetical planet orbiting Alpha Centauri B. The organization of the human mission to visit that planet and make contact is chronicled, including the dramatic creation of the moment of the first meeting between human and alien.

While the annual CONTACT Conference explores a different "human/alien" scenario each time, the CONTACT Curriculum has taken the particularly successful 1987 exercise and built the basis for a teachers' guide and set of lesson plans upon it. With an initial support grant from the Smithsonian Institution's Office of Interdisciplinary Studies we began classroom trials of the *COTI jr* curriculum in early 1990.

This first *COTI jr* pilot program involved twenty-five eighth grade students and four teachers from both Frost and Poe Intermediate Schools in Fairfax County, Virginia. During one interview I asked participants on one of the alien teams to tell me what made them decide to get involved:

James: –"You told us that people who were interested in the Solar System and who wanted to think about meeting aliens should stay with it. That's how I got involved."

Ronald: –"I'm just interested in aliens, period. I just watched *War of the Worlds* and all those science fiction movies. So I'm an alien freak."

Trevor: –"I guess I kind of wanted to know what it would be like to live like an alien and have somebody come to you. It would be kinda strange if we are living on Earth and they came down to here."

Alien contact, especially in our youth, is part of our everyday lives. Some contacts last a lifetime, others are as simple as an exchange of glances between strangers or a ritual exchange with a salesman or a store clerk. Over the years, we learn not to consider these contacts as alien, especially when we remain within our own culture. We rest comfortably in the familiarity of daily contact, but alien contact holds a fascination for many throughout their lives although it may not be expressed as openly as when we are in our early teens.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Our lives are filled with contacts that define who we are and affect the vectors of our future. Rare is the individual who shuns all contact, rarer still the one who achieves perfect union once contact is made. That part of our spirit which hungers for contact with extraterrestrial intelligence is manifest most innocently in children. Even in adulthood, the appetite for contact has driven us to undertake an "official" search for signs of life at the extreme limits of our sensory capabilities. Yet some are concerned that success in this endeavor may simply result in our devouring the experience without ever understanding what the contact was all about.

The students in our CONTACT curriculum were asked to follow a structured outline that begins with the selection of a star type from the main sequence catalogue. They then created a plausible planetary system for that class of star. One of the planets needed to be capable of supporting life; one team, the "aliens," was asked to develop an evolutionary scheme for the type of life that they believed might live there. Separate from the "alien team," a "human team" was responsible for establishing a spacefaring civilization based in our own Solar System that would be equipped both technically and psychologically to seek out and meet the extraterrestrial culture of the imagination created by their fellow students.

In our first trial, participation in the program was entirely voluntary and involved extracurricular research and numerous group meetings during which alien planets, extraterrestrial life-forms, multi-generation fusion starships, and even a six-city lunar colony were developed. The children prepared drawings, reports, and science fair quality presentations in preparation for their final face-

Life-size model of the alien skull produced by Ronald, at Poe School.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

to-face contact between human cultures of the future and hypothetical alien cultures.

Kristina, one of the alien team members from Frost, describes part of their activities: "One of the areas was making a model of the planet and another was the biology, like how the insides of the alien works. Another one was what it looks like on the outside and more complex things were like how the government and social life worked. How did the families live together? There was a committee that made up the plants and how they ate them. Stuff like that."

Jennifer, on Frost's human team, waxed enthusiastic about her elaborate designs for the interstellar spacecraft that would house their mission. She even got her physicist father involved in the project. "The thing is it could work! I was just fooling around with this stuff. In the beginning it was just 'what the heck.' Now I've gone through and I've . . . I mean you put solar panels on the outside, you have fusion and you have something that could actually go someplace. I know NASA was toying around with a spaceship design a few years ago and I don't know what they came up with, but I've just been working out with it and, so far, it looks like it could work. We could actually go out there!"

Too fanciful? Not down to Earth? Listen to what Çem told me when asked about his experience. "I don't like going too far into fantasy. I prefer scientific boundaries because that way you think maybe this could be real and you really get caught up in it much quicker." He designed the six-city lunar settlement from which the interstellar mission was launched, complete with the economic basis which would support its existence. "You don't realize how much there is to learn until you start on it. For everything you discover you have like five new questions that come up . . . new problems to solve. Things keep coming up all the time."

One young girl, Mitra, told me that science was her worst subject, but that she enjoyed the CONTACT simulation. "I guess I kinda realized that there is a whole lot more to space than I knew and how, I mean, sometimes I just think the Earth is the only planet, but there is a whole big Universe out there. I guess I never realized that until I started this project." To which Kristina added, "It helped me to learn how to work with a large group. It was really interesting listening to all the different ideas; just thinking what it would be like living on a different planet or to meet a different lifeform."

Young Allison describes how she and her friends tackled what might appear to some as a daunting project. "I was assigned to the human team. We got in there and picked a leader to help us. We each got our job assignments and we went off on our own time with the rest of the people on the committee. You did whatever you were supposed to do, like I was supposed to do the engineering and the science of the ship. We did that and we got back together and we went over it all.

"So we figured out a way how the engineering would work, and how it could possibly run, and how we could contain fuel, and everything so that we

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

could get there and back and not run out of fuel. We figured out how much we would need and how to get us moving in the right direction and not, you know, that we could go straight when we wanted to . . . how to control the ship."

Of course not everyone, it seems, got to do exactly what they would have liked to do. Jesse confided, "I got what was left over—government. I pretty much decided to take the free enterprise system of government the US has because, as far as I know, it works. So far it hasn't had any revolutions or major overtakings. You know, a lot of the turmoil other countries have had." Everything didn't always go just the way they imagined, either. Mistaken assumptions made this truly a learning experience. I asked Geoff to tell me about the biggest mistake he felt he had made. "Well, we were going to have cows and sheep for our animals [in space]. We found out that sheep were really destructive. With cows it takes 50 acres just to support one cow. We found that it just wasn't workable."

There was also a bit of trepidation about the final encounter between the humans and the aliens. Kristine told me, "We are going to be scared when they come. I don't know how we will receive them, but I know we will be scared. But we aren't like people from Earth, we wouldn't shoot them, 'cause we are just not like that."

CONTACT at each of the schools reflected the unique blend of personalities and cultural backgrounds of the participating students. The group from Frost was unable to establish conclusive communication within the time allowed for their encounter. On the other hand, the smaller group at Poe, after arousing the curiosity of the alien natives with a series of probes and offerings, succeeded in having their cautious two-man contact team captured by the aborigines as food-providers.

Throughout the project the students maintained a very high level of interest and enthusiasm which carried through to the final dramatic encounter. Their group meetings were characterized by animated discussion of the issues. At least one student who had exhibited a reluctance to do library research changed his attitude in order to bring new knowledge to his teammates.

HOW IT GOT STARTED

In the late seventies, two methods of thinking about alien contact converged to create a unique exercise that seeks to stimulate our imagination about meetings with extraterrestrial intelligence and to examine out attitudes towards life on our own planet. The first method is exemplified by the Thraxisp Project in which science fiction authors Larry Niven and Paul Preuss, among others, joined forces with artists Joel Hagen, Rick Sternbach, Pat Ortega, and Art Costa, as well as astronomer William Hartmann, to create and illustrate an alien environment. This experiment found its roots in the amazingly fertile culture of science fiction literature and blossomed briefly into reality at a 1981 gathering of Los Angeles science fiction fandom called Equicon. The second method is illustrated by the work of anthropology professor James Funaro at

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Cabrillo College in Capitola, California. The common ground is the literature of science fiction; the innovation is the application of this literature in a course to teach the principles and methods of anthropology.

This happy intersection led Jim Funaro to a discussion with Frank Herbert in which both men began to see the potential of an academic conference dedicated to the creation of cultures of the imagination and extrapolating on possible ways of making contact. Frank introduced Jim to the world of science fiction conventions and it was at Octocon, in the fall of 1980, that he met Carol Bowman-Porter who shared his enthusiasm for the idea and introduced him to Larry Niven, Jerry Pournelle, C.J. Cherryh, and John Brunner.

The enthusiasm of these science fiction writers led to the creation of the first CONTACT conference in April of 1981 in Santa Cruz, California. CONTACT immediately attracted other writers like Michael Bishop, Philip Slater, and Peter Beagle. From the academic community CONTACT was supported by anthropologists Paul Bohannan, Reed Riner, Robert Tyzzer, Charles Urbanowicz, Mischa Adams, and Ruby Rohrlich. To help visualize the alien world artists Joel Hagen, Darrell Anderson, Pamela Lee, Jael Brown, Art Costa, and William Hartmann were enlisted and asked to exhibit their previous creations. The conference also benefited from the presence of NASA's Richard Johnson, who had contributed to the study of space settlements in the late seventies, and UCSC film instructor Vivian Sobchack.

From the outset, CONTACT established its character as an interdisciplinary conference in which participants apply scientific principles to their speculations. In the words of Larry Niven, "CONTACT is more than a science fiction convention. Its emphasis is on anthropology—the life sciences. It should expand the minds of the scientists and give some anchor to the imaginations of the science fiction writers."

There are four essential elements of a CONTACT conference. The central Cultures of the Imagination (COTI)™ simulation is open to registered conferees who examine a different scenario each year. One or more projects, named in honor of anthropologist Gregory Bateson, focus on a specific future timeline. Begun as a Bateson Project in 1987, the Solar System Council is in its third year of exploring the possibilities and impact of a near-term breakout into space. Every CONTACT also features a Symposium in which challenging papers are presented in open forum. Many of these papers have been collected in a set of proceedings from the conference (limited quantities of this six volume set are available for $80 by writing to the address for CONTACT at the end of this article). Finally, talented individuals offer specialized workshops that range from hands-on world-building with writers like Poul Anderson to learning Loglan, the logical language created by James Cooke Brown.

CONTACT is now in its ninth year. Along the way it has become a nonprofit scientific and educational organization. With each annual conference it has accumulated further insights from

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

writers like Greg Bear and David Brin. Academic wisdom has been forthcoming from professors at universities coast to coast and knowledgeable in many scholastic disciplines. Storyteller Ruthmarie Arguello-Sheehan, composer and computer specialist Keith Doyle, photographer Ctein, dolphin trainer Mary Clare Woodson, space law specialist Chuck Stovitz, astronomer Peter Manly, as well as space scientists like Jonathan Post and Eric Jones, are among the many other participants who have brought expertise and diversity into this unique meeting of minds

In addition to its founding members, Jim Funaro, Reed Riner and Joel Hagen, CONTACT now counts among its board of directors writers Poul and Karen Anderson, and artist William "Chip" Street. Under their combined guidance, CONTACT is reaching beyond conference participation to disseminate its accumulated knowledge to the broader educational community and the interested public at large. One of the tools created for this purpose is the *CONTACT Newsletter* which features columns on world-building by Poul Anderson, tips on modeling by Joel Hagen, and essays by CONTACT conference participants that are designed to help those who are interested in creating their own Cultures of the Imagination (COTI)™.

WHERE DO WE GO FROM HERE?

To fulfill its co-sponsorship role with the Smithsonian Institution, CONTACT presented the results of the *COTI jr* pilot at a day-long seminar in the teacher briefing room of the National Air and Space Museum in Washington, D.C. Over forty intermediate school teachers and supervisors from Virginia, Maryland, New Jersey and the District of Columbia, along with representatives from the National Science Foundation and National Science Teachers Association were in attendance.

The program began with an outstanding lecture on astronomy by Jeff Goldstein from the Museum's Laboratory for Astrophysics. His clear and excellent illustrations of the scale of the universe and the types of stars that populate it provided the teachers with the context in which the students must operate in order to satisfy the objectives of *COTI jr*.

Kim Cox, the teacher who led the *COTI jr* program at Frost Intermediate School, discussed her experience in the classroom. She fielded questions from her peers and made a strong case for the benefits of creating a formal curriculum from this project. The teachers were then shown a short video presentation of the children in action as well as responding to interview questions about their reaction to *COTI jr*.

The program concluded with a presentation by *COTI jr* advisor, Mr. George S. Robinson, associate legal counsel of the Smithsonian Institution. Mr. Robinson is the author of *Envoys of Mankind*, in which he discusses the ethical and jurisprudential aspects of humanity's migration into space. Mr. Robinson endorsed the goals and objectives of *COTI jr* and stressed the program's ability to introduce ethical values into the learning process.

As a result of this final presentation,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

CONTACT was invited to have a *COTI jr* workshop at the Governor's Math and Science Teacher's Academy reunion sponsored by the Maryland State Board of Education in October of 1990. Russell Wright, Science Supervisor for Montgomery County Public Schools, arranged for a new classroom trial at Earle B. Wood Middle School in Rockville, Maryland. Science teachers Nell Jeter and Sheila Shillinger supervised a new CONTACT simulation with all 280 of their science students. This time *COTI jr* was part of the classroom assignment and elements of the experience were incorporated into the students' final exam.

CONTACT is currently seeking funds to prepare instructional tools that can be used as resources for teachers and students who are undertaking the *COTI jr* curriculum. The centerpiece of these elements is the "Teachers' Guide," a set of looseleaf documents organized into educational units matches the course outline.

The Teachers' Guide will contain objectives, lesson plans, student activities, and evaluation procedures for teachers to gauge the learning level achieved by the students. It will also include a suggested bibliography and a guide to available resources on the various topics. Easily reproducible student handouts will provide background information for each area the students are expected to cover before moving on to the next unit. It will also provide a list of materials that the students are expected to produce. This Guide would be reviewed by experts in a wide variety of disciplines.

The *CONTACT Newsletter* provides an existing resource for teachers. As an additional resource, CONTACT is proposing the publication of a science fact and science fiction anthology that can serve as a primer. This collection of fact articles about world-building and culture creation would be illustrated by related fiction stories that show how altering certain building blocks can affect the overall structure being created. Student readers are given immediate examples of how making a single change in their environment or culture can affect the eventual contact between humans and aliens.

Another element in the CONTACT toolbox is a series of video episodes which can be screened prior to moving the students into a new part of the curriculum. This video series would be produced to engage the students' enthusiasm for the next phase of the outline as well as to give them living illustrations of the kinds of creations, both physical and biological, that meet the curriculum criteria of realism and faithfulness to the body of scientific knowledge.

Finally the production of interactive computer software would allow students to visualize and create elements of their simulation for their fellow teammates. These programs would present students with the basic knowledge necessary to their world-building and culture-creating exercises, allow them to attempt to integrate the elements they select, and point out problems and errors when they try to integrate disparate elements.

It is CONTACT's hope that all of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

these programs will be received by science fiction readers as enthusiastically as they have been by past CONTACT participants, the Smithsonian's Office of Interdisciplinary Studies and NASA's Primary and Secondary Education Division. Educational projects like *COTI jr*, offer the potential of formally introducing science fiction literature into the classrooms of twelve-to-fourteen-year-old students across the country and possibly even around the world. *COTI jr* uses a natural enthusiasm for space exploration and alien encounter to stimulate interest in mathematics and science, but it also addresses issues related to handling cultural differences on Earth and may serve to introduce ethical values at an important formative stage.

CONTACT seeks the support of the general public to continue its educational efforts. Foundations view voluntary public participation as an asset when evaluating the merits of a grant proposal. A $15 contribution puts you on our *CONTACT Newsletter* mailing list and tax-deductible amounts contributed above that will go directly into funding programs such as *COTI jr*. Your generosity will be the answer to the question of whether you are ready to make CONTACT. More importantly, your support will improve the chances that future generations will be in a better position to make a contact of their own. ■

About the Author

Greg Barr serves as the volunteer Chief Executive Officer of CONTACT, 1412 Potomac Ave. S.E., Washington, D.C., 20003-3032. He was the last Administrator of the L5 Society Promoting Space Development and is currently working for Action on Smoking and Health. He is also Vice President of the Space Frontier Foundation and does independent research, media production, and educational consulting work through his own company, Dawntreader.

Partial List of CONTACT Participants

Social Sciences

Mischa Adams, Paul Bohannan, Phil DeVita, Suzanne Engler, Ben Finney, Jim Funaro, Lou Anne Hudson, Barbara Joans, Morton Klass, Jim Moore, Arthur Niehoff, Douglas Raybeck, Reed Riner, Ruby Rohrlich, Devayani Smith, Sandy Stone, Philip Slater, Bob Textor, Allen Tough, Robert Tyzzer, Charles Urbanowicz, Larry Victor, Thomas Zane.

Physical and Space Sciences

Paula Butler, Christine Carmichael, Albert Harrison, Richard Johnson, Eric Jones, John Lewis, Pete Manly, Thomas McDonough, Jonathan Post.

Writers

Karen Anderson, Poul Anderson, Peter Beagle, Greg Bear, Michael Bishop, David Brin, C.J. Cherryh, Rick Cook, Alan Dean Foster, James Hogan, Mary Alan Dean Foster, James Hogan, Mary Mason, Larry Niven, Jerry Pournelle, Paul Preuss, William Tenn, Frank White.

Artists

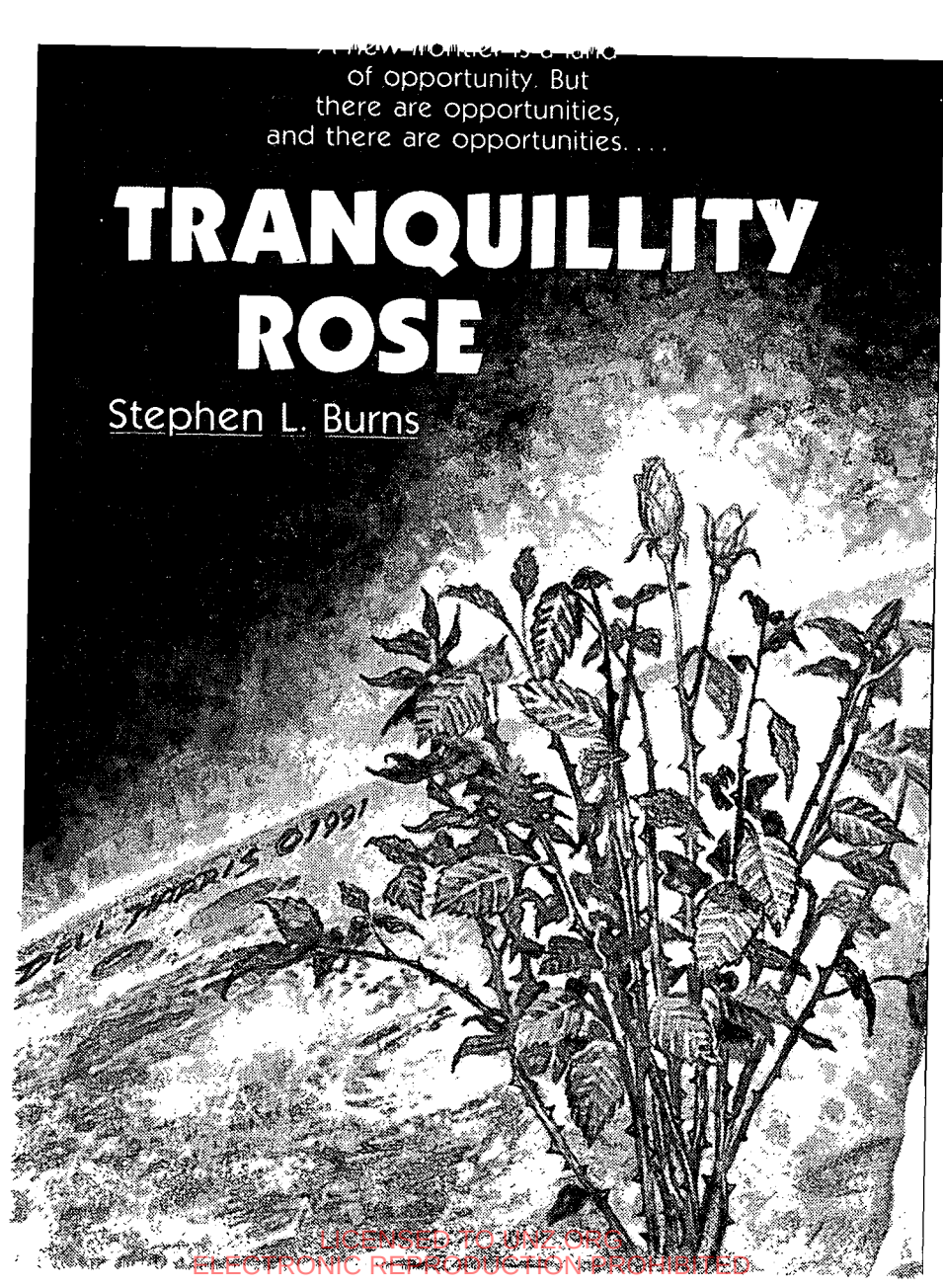
Darrell Anderson, Jael Brown, Art Costa, Ctein, Keith Doyle, Joel Hagen, William Hartmann, Nolan LeBlanc, Pamela Lee, Sean Meehan, Pat Ortega, Rick Sternbach, William Street.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A new frontier is a land of opportunity. But there are opportunities, and there are opportunities. . . .

TRANQUILLITY ROSE

Stephen L. Burns



LICENSED TO UWZ.CHD
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Ben Kuhn almost called his wife Laura at work to tell her the good news, but went out shopping instead.

He wasn't gone from their 5×5 meter cubby in the Tycho Transitory Housing Warrens for very long. There was only one store in the down's probie zone, and not enough time to travel to downcenter because Laura was due back from work within the hour.

The call from MOON—Moon Operations Oversight Network—had come while he was doing some background research to the book he was "editing"—ghostwriting, really. Something of a legend inside the publishing world, the public at large had never heard of him, even though he'd had a hand in dozens of bestsellers.

Ben juggled two packages in his arms as he let himself back into their cramped cubby. Thin and stoop-shouldered, the most noticeable thing about him was that even after over a year in the warrens he still looked as if he had a deep tan. But that came from the same Semitic bloodlines which had endowed him with thick, glossy black hair, dark bemused eyes, and the narrow, hawk's beak of a nose over his thin moustache.

He put the packages on the small table in the middle of the room, right where Laura would see them when she came in. Then he went back to his office. Actually, calling the meter square area over in one corner of their cramped cubby an office was something of an overstatement. His desk was a table just big enough to hold his compad, some notes and a cup. There was an auxillary screen hung on the wall facing him, a few mementos, and a picture of his muse on the wall to his left.

When he had taken the corner over he had assumed it would be only temporary. After all, this was *Transitory* Housing. Lunar settlement was rumored to be proceeding slightly faster than expected. They shouldn't be there long.

That had been over fourteen months ago. It was hard to believe that the waiting was finally over. He and Laura had come a long way to reach this point. High, hard steps of distance and time and money and perseverence. The sort of steps where you stand on your toes on one, and strain to pull yourself up to the next by your fingertips. Now their last step was in sight.

The Moon had brought them together over seven years before and had been their guiding star ever since. They had met at a newsstand, both trying to buy the last copy of a magazine with a special holopho layout on lunar settlement. They had applied to emigrate to the Moon on their wedding day, joining each other and the endless waiting list. Their first real break came when Ben's agent, Morty Takhara, had landed Ben a job ghostwriting the "autobiography" of Trevor Higgins, CEO of Orbital Industries LTD.

Two weeks later they were on their way up to Higgins's cylty, High Birmingham, on a two-year permit.

Once there they had reapplied as Off Earth Residents. Fortunately, Higgins was a busy man. It took Ben over a year to get all the interviews which would be distilled into his book. He had juggled a dozen other writing projects on the side. Primarily a ghostwriter, he had also written advertising copy. Magazine articles. Instructional materials. A series of reports on cylty life for Global

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

NewsWeb. 'Edited' Ashcroft Holmes's second bestselling novel, disproving Goldman's Maxim that you can't wash garbage.

Laura was just as busy. She taught T'ai Chi, dance, exercise classes, coached sports—whatever could bring in extra credit. By the time Higgins's long-winded, self-congratulatory "autobiography" was done, they had one month left on their permit. A week later, and largely thanks to a single call made by Higgins's executive secretary, they had been accepted as probationary residents on the Moon. Their time in the Tycho Warrens began.

There was a low warning tone as the lock code was entered into their door from the outside. Ben hurriedly called up something at random on his compad, wiped the grin off his face, and tried to pretend he was working.

Laura came in, dropped her gym bag, kicked off her shoes and shucked off her jacket. The tight red tank top she wore underneath showed off the lean, muscular upper body of someone dedicated to physical conditioning. She hung up her jacket and padded on into the cubby, moving with the fluid grace of an athlete and dancer. In the Moon's reduced gravity her every move was graceful, balletic. Ben could trip over his own feet while sitting down.

As planned, the gaily wrapped packages caught her eye. She stared at them, her habitual frown deepening. Her features might have made her pretty, but they were all too often sharpened and shadowed by a harsh and wary severity. She kept her brown hair clipped austerely short, and never wore makeup or jewelry.

"Ben?"

He looked around, trying to act as if he hadn't heard her come in. "Oh, hi hon. How was your day?"

"Sweaty." She eyed the packages, then him. "Whose birthday?"

"Nobody's."

That distrustful narrowing of the eyes he knew so well appeared. "Then what are they for?"

He shut off the 'pad and stood up. "Hard to say. Why don't you open them and find out? Start with the smaller one."

"Why do I get the feeling," she said as she began opening the smaller, silver-wrapped box, "That you're up to no good?"

Ben put on a wounded look, hand over his heart. "How could you think such a thing?"

She glanced up at him. "This from the man who tried to enter me in the Nude Moon Maid contest." But she wasn't frowning any more.

"Us writers know the value of exposure." He watched her pull out the bottle that had been inside the foil-wrapped box.

"Wine?"

Ben squinted at it. "Sure looks that way. Maybe the other box is full of women and song."

"Better not be." She put the bottle aside and tore into the red plastic wrapping around the larger box. He knew that he had her curiousity aroused now.

All expression leached from her face when she saw what was inside. She lifted the dirt-filled, brown foamstone container out of the box and gently, almost reverently, put it down on the table. Protruding from the rich black soil

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was a short, wax-covered stem already sporting several verdant green shoots.

Laura hesitantly touched one unfurling leaf, her lower lip caught between her teeth. Then she turned over the thin metal tag on a loose wire around the plant's base. She mouthed the name silently as she read it.

Tranquillity Rose.

One of the true lunar varieties, bred for scant water, low gravity, and long periods of artificial light.

Ben looped his arm around her waist. She gazed back at him, her eyes bright and her face filled with fragile wonder. When she asked the question, her voice was no more than a whisper.

"Does this mean . . . ?"

He nodded soberly, a great bubble of emotion swelling in his throat, making it hard to speak. "Yes," he whispered back. "We're finally going to put down some roots, my love."

They drank the wine, toasting themselves, their new home to be, and even MOON. Giddy with hope and excitement and wine, they made love on the cubby's narrow bunk; first fast and laughing, then slowly and tenderly, falling asleep in each others' arms.

Less than an hour after they awoke they were arguing.

As usual, she won.

Ben stood in line with the other people who had gotten off the shuttle from Tycho to Mare Nectaris.

Ambrosia Down. Their new home. Here he was, no longer a probationary resident but a full citizen, in a new place, a new life. He wanted to feel excited, but the best he could come up with was a sort of glum resignation that wasn't just linemind.

The man in line ahead of him kept tapping his foot impatiently. His conservatively cut black threesuit marked him as some sort of xec. The tapping was driving Ben up the wall. He bit back the urge to scream at him, just like he'd bitten back the urge to scream at Laura when she insisted that he go on to Ambrosia without her.

On their very first day in the Transitory Housing Warrens she had decreed that they steer clear of any contractual entanglements which might keep them from moving the moment MOON offered them a lease on permanent quarters.

That was no problem for Ben. He could write anywhere. The greatest hardship from being confined to a tiny corner of their cramped cubby was the lack of room for his books.

It wasn't so easy for Laura. An intensely physical person, the confined space drove her crazy. The few odd pick-up classes she taught were not enough of an outlet for her restless energy. By the time six months had passed things had gotten pretty rocky. They had come closer to splitting up than either of them would admit to the other—or even themselves.

Ben had kept his mouth shut when she told him she'd been offered a contract to teach two semesters of PhEd full time. She took the job and things had gotten somewhat better. She still had two weeks to go on her contract.

Mr. Impatient's turn came at the arrivals window. Ben was next. Soon he would be Officially Here.

By himself. Because she refused to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

let him wait until they could come together, and once her mind was made up nothing short of explosives could budge her.

Ben had known from the first that loving Laura, and being married to her, would not be easy. He hadn't expected a simple, uncomplicated love. He had married her, not who she might be if she were different. Life with Laura *was* a bed of roses. Rare sweet blossoms in amongst the sharp and thriving thorns. That was why he had chosen a rose as a symbol of their new start.

The woman in line behind him tapped him on the shoulder. "You're next," she said, pointing at the window. The clerk behind the glass glared at Ben with a look of pinched expectation.

"Thanks," he mumbled and hurried over to the window. He gave the clerk a sheepish grin. "Sorry about that."

"Name?" The clerk sounded like an disgruntled robot.

"Ben Kuhn. Uh, K-U-H-N."

"Ben C. and Laura S. Kuhn, married, childless, citizens, new placements." The clerk recited. He glanced up, eyes as blank as a doll's. "Where is Laura Kuhn?"

"Still back at Tycho," Ben explained. "She had two weeks to go on a work contract, but I could come here immediately so I came on ahead to start settling us in."

"Uh-huh," was the disinterested response. He hammered in a combination of keys. A reusable plastic flimsy rolled out of a slot just below the window. "Take the sheet. You're residential level, Rad 3, Ring 6, Number 12. Pick up your belongings at Cargo onyer-left." A jerk of the chin. "There's a tempokey for cargo and your door printed on the edge of the sheet, welcome to Ambrosia, next."

Ben was still standing there uncertainly when the woman who had been in line behind him edged past him to the window. He backed out of the way and wandered off in the general direction the clerk had indicated, clutching the flimsy and looking around in confusion.

"You lost, honey?" a deep, throaty voice asked behind him.

Ben turned around, found himself staring at a pair of considerable breasts a bit above eye level. He lurched back, eyes widening as he got a better look at their owner, and gaining a whole new definition of Junoesque.

The metric system be damned, the woman before him had to be well over seven feet tall. Her skin was a warm chocolate brown. She was big but not really fat; perhaps 150 kilos of meat, and muscle packed over log-sized bones. She wore tight pink and black striped pants, and a deafeningly loud Hawaiian shirt knotted at the waist, showing off her awesome décolletage. The shirt was stretched to the breaking point across her broad shoulders.

"I'm beginning to think so," he said. He couldn't imagine disagreeing with her.

Her chuckle was deep and low, yet very feminine. "Just outta the pens at Tycho, right?" A wild crop of dreadlocks surrounded a broad, humorous face, serene and self-possessed, yet filled with bubbling hilarity—like a buddha with a head full of laughing gas. Her wide mobile mouth was stretched into a toothy grin that put deep dimples in her cheeks.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Yeah," he admitted, wondering if it showed that much.

"I betcha they kept you on the pot a year or better." Her brown eyes sparkled with amusement.

Ben looked at her harder, trying to see who she was; she seemed to know so much about him. Her smile was kindly, cheerful, slightly mad, and totally opaque.

"C'mon, I'll he'p you get your stuff." She headed off, her ropy black dreadlocks dancing. Ben followed her to another window. This time there was no clerk, just a reader slot.

"Gimme your slip." He handed it over. She ran the edge through the reader, then returned it to him all rolled up like a scroll. "Don't lose this, honey. You'll need it to open your front door."

"Thanks." The door beside the window hissed open. A small four-wheeled cart rolled out. On it was the coffin-sized packing crate he and Laura had filled back at Tycho. There was a small bench seat at the front and no controls that he could see.

"All you gotta do is set your skinny butt down and tell her to take you home," the huge black woman explained. "It's s'posed to respond to voice commands, you want to stop or anything."

"OK," Ben said, eyeing it mistrustfully. "Thanks, uh—"

"Mona." She beamed at him and stuck out a pink-palmed hand the size of a baseball mitt. "Mona Lincoln."

Ben took it, bracing for a crush. "Ben Kuhn." Her grip was warm and surprisingly gentle, almost dainty. That emboldened him to ask, "How did you know I'd waited a long while for a place, uh, Mona?"

Her smile was equal parts mystery, merriment, and mischief. "Hell, if I knew how I know what I do I'd really know something, wouldn't I?" She released his hand. "Now you better shag it, go see what MOON's laid on you. I'm sure I'll see you around."

"OK," Ben ducked his head. "Thanks for your help." He climbed gingerly onto the seat. "Take me home. Please."

The cart hummed to life, made a tight turn, and started toward the mouth of a tunnel with UTILITY ACCESS over it.

"Hey, Ben!" Mona called behind him. He twisted around to look back, saw her wave. "Welcome to Ambrosia!"

Ben waved back, then the tunnel mouth swallowed him up. He faced forward again, hanging onto the seat as the cart whirred along one side of the brightly lit, white-walled tunnel. Thinking about it, he realized Mona hadn't given him one straight answer to any of his questions.

A short time later the cart rolled to a stop before the door to Number 12, Rad 3, Ring 6. His new home. *Their* new home.

He climbed down, eyeing the door nervously and wishing he had some vague idea of what he would find behind it.

Living on the Moon is a privilege, not a right. That had been drilled into them at Tycho. MOON was in total control of housing and settlement—along with just about everything else. It told you when and where a space was available,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

already having decided for you if it was large enough, or if you could even afford it. The lease on this place was just within their means.

Oh, there had been the option of turning it down if they hadn't wanted to come to Ambrosia, and gambling on another opening at another down. Ben rarely made decisions without consulting Laura, but taking this place was one he had made without a second thought. Another six months in the warrens and divorce would have been a best-case scenario.

So here he was, and what was behind door number 12? The door itself gave nothing away. It was just a fiber reinforced cast foamstone Class II pressure door, a lock set in the fused stone wall beside it. Looking around, he could see a dozen or more just like it up and down the tunnel.

Laura should be here for this, Ben thought unhappily. I should carry her across the threshold or some damn thing.

No sense in putting it off. He unrolled the plastic flimsy so he could use the tempokey printed along its edge. A scrap of red plastic fluttered out, drifting slowly toward the floor.

He was able to catch it before it landed—one reason the Moon was called the klutz's paradise. He turned it over, then around so he could read what was printed on it.

IT COULD BE YOU

Ben read it again, brow furrowing. It could be me *what?*

He felt a prickle of unease. It was a warning, no mistake about that. Suddenly feeling paranoid, he looked up and down the tunnel to see if he was being watched, seeing only a woman with two children in tow. They didn't look particularly dangerous.

IT COULD BE YOU. He was sure it hadn't been on the flimsy when the clerk printed it out. So it had to have been put there by Mona Lincoln. But why?

"Damn," he muttered, shoving the slip into his pocket, and then getting the flimsy into the reader the right way after the second try. The door sighed back. The lights in the cubby came up, keyed by a command on the tempokey.

Ben stared inside, all expression slipping from his face. He drifted through the doorway like a sleepwalker entering a dream.

All his thoughts about the cryptic message were left behind on the threshold. The cart followed him in like a well trained dog, and the door closed by itself after him. He never noticed.

Just inside was a sort of shallow foyer, deep open closets on both sides. Charger hooks identified them as pressuit lockers. He stood in the wide archway leading into the main room, almost afraid to go in.

The main room was *huge*, at least 10 × 10 meters. The ceiling was higher than their cubby back at Tycho had been wide. A staircase cut into the soft gray rock walls ran up the left side, opening onto a narrow balcony that ran across the far of the main room 2½ meters above the floor. There were three doors up there—which meant even more room!

Ben went up the stairs and tried the first door, finding a long, narrow bare-walled room, probably a bedroom. The

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

next room was a duplicate of the first.

The room behind the third door had to be the master bedroom. Ben was awed by what he found inside. Although not as deep as the other two rooms, it was twice as wide, taking up almost half the upper floor, and by itself bigger than their cubby back at Tycho had been. Shelves and closets had been cut into the walls. There was more than enough room for the king-sized airbed they had so optimistically bought their first week on the Moon.

He stumbled back downstairs in a daze to see what other surprises lay in wait. In the area under the two smaller bedrooms there was a kitchen niche, already equipped with a standard stove/oven/zapcook combination, sink, vacuum-driven refrigerator, cupboards and counter. Next to it was the bathroom, neat and spartan except for the incredible decadence of a homemade stone bathtub.

Ben's head was spinning. One more door remained, leading to the area under the master bedroom. He was almost afraid to open it for fear that some laughing MOON bureaucrat would pop out, scream *"Fooled you!"* and then escort him away from this unbelievable space and to the broom closet-sized cubby they were really going to get.

Bracing for the worst, he took a deep breath and opened the door.

The smell caught him by surprise, so vivid and unexpected that for just a moment he was transported back to one of the few parts of Earth he missed. It was the smell of damp earth and green growing things, of trees and flowers and grass under his feet. He crossed the threshold, pushing through an inner barrier of hanging plastic strips and into a garden.

It was like entering another world. Sunlight flooded the chamber, pouring from a dozen fiberopeyes connected to the airless surface. Unlit lightstrips striped the ceiling around them, ready to provide artificial daylight during the long lunar night.

The floor was carpeted with lush, hardy airgrass. In front of him was a chest-high planter, a profusion of flower and vegetable plants overflowing its sides. He recognized daisies and beans, tomatoes and marigolds. A path led off to both the left and right.

He started along the path to his right, looking up when he heard a musical twittering. Two small brown sparrows swooped toward him, then hung in the air above him on slowly beating wings, regarding him with cocked heads and bright black eyes. He reached up toward them. They exploded in opposite directions, one firing off a small wet missile that would have hit him in the forehead if he hadn't ducked.

"You dirty bird!" he called after it, laughing with delight. "Is that any way to welcome me?" Still chuckling, he continued his exploration of the garden. Whoever laid it out had done so with an eye to making it seem larger than it really was, curving and recurving the path around a variety of beds, tubs, and raised planters. There was some sort of center area, screened off by the tall, narrow planters, and apparently only accessible by going all the way to the back of the garden first.

It didn't take him long to figure out the principle behind the layout; once inside that area the walls would be equally

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hard to see, helping create the illusion that it was a small bower in a larger open space.

When he reached the center of the maze he found it was not that large; a three-meter circle surrounded by walls of green, airgrass on the floor, and a sunken planter in the middle.

When he saw what was growing in the obvious heart and centerpiece of the garden, the smile peeled off his face.

It was a rose bush. Over a meter tall, its serried-edged leaves a deep glossy green. Near its top were two thumb-sized buds, promises of blooms to come. In spite of a sudden uneasiness that had crept over him, he knelt to peer down at the plant's base, spying the glint of metal. He reached in gingerly, trying to avoid the thorns and turning the tag over so he could read it.

Tranquillity Rose.

It hadn't taken Ben long to unpack. They didn't own all that much. He had even written a series of articles about the enforced asceticism of living in space. They had been allowed only thirty kilos each when they went up to High Birmingham. There was no limit on what they could bring to the Moon with them—none except the punitive cost of shipping. Life in the warrens did not encourage pack rat tendencies. A 5 × 5 was cramped enough without cluttering it up.

All of his and most of Laura's clothes were in the master bedroom. Toiletries in the bathroom. Their compact entertainment deck was set up in one of the niches cut into the wall under the stairs, the screen unrolled and hung up on the wall beside it. A few pictures and other oddments had been scattered around the room. The small crate containing his office supplies was already up in the first small bedroom.

He glanced at his watch. He was supposed to call Laura, but it was still too early. She would be out coaching an evening game at the school. He could go upstairs and set up his office, but that would take what, half an hour tops.

The truth of the matter was that he wanted to get out of there for a while. After so long in that cramped 5 × 5, all this empty space was more than a little daunting. He felt almost like a criminal having it all to himself.

All Ambrosia was waiting to be explored. But he was feeling guilty about discovering this wonderful space without Laura, even though coming here by himself had been her idea, not his. So he would put off full-scale explorations until she got here. Just a short walk, then. Check out the neighborhood, walk off some of that wound-up feeling.

He grabbed a jacket, made sure that the lock would recognize him when he got back, and went out the door. Closing it behind him, he saw that someone had stuck a flimsy to it. It was an ad encouraging him to visit a bar called The Escape Hatch. According to the map at the bottom it wasn't that far away. Just down the rad a little ways, around the corner at Ring 5, and another hundred meters after that.

He nodded to himself and stuck the ad in his coat pocket. A drink sounded like just the ticket. Have one to celebrate, come back home and call Laura, then off to bed. Get a good night's sleep, set up his office in the morning and get back to work.

* * *

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Ben paused in the Escape Hatch's doorway, looking the place over before he went in. He liked what he saw.

The place wasn't very big or very fancy. Not too bright, not too dark, not too loud. On the far side of the rectangular room was a bar big enough to seat maybe twenty. It was open at either end, tall padded stools in front of it, a big mirror behind it, a line of bottles just below. There was room to seat maybe another forty at the tables scattered through the place, all of them set far enough apart that you wouldn't feel like you were sitting in your neighbor's lap. A couple of gamemachines. A lot of advertising posters featuring idealized Earth and Moon scenery on the stone walls. Big vidscreen at one end, restrooms at the other.

Roughly half of the tables had people at them, mostly groups of two or three. It was a mixed crowd. Some patrons were dressed in work clothes, a couple even wore pressuits. The rest wore a mix of Earth and lunar fashions. Over in one corner he saw four men who were making at least half of the noise in the place. Three of them had on some sort of red uniform coverall. The one not in uniform, a big beefy blond jock-type turned to peer at him, then turned back to his friends. A moment later one of the men in red got up and headed for the door. Ben heard laughter and "call the little woman."

One end of the bar was deserted. Ben slid onto the end stool. He watched the bartender finish filling an order for the waitress, a willowy redhead in a loose green blouse and tight black pants. The bartender was tall and pear-shaped, with a bald pate and a wild fringe of grey hair. He worked quickly, his movements sure and precise. On his face was a bland, faintly amused look Ben was willing to bet was habitual.

The waitress moved off with her tray. Ben saw that she had a sunset colored ponytail that hung to her shapely buttocks. The bartender spotted him and sauntered over. "What'll you have?"

"Beer. Can you recommend a good local brand?"

A nod. "Mare Humorum." He reached into a cooler under the bar to get one, snapped off the safetab, and put it in front of Ben.

"You mind cash?"

His amused look increased slightly. "Not so's you'd notice."

Ben put a ten credit chip on the bar. "Have one on me if you want."

The bartender squinted up at the ceiling as if trying to see through the several meters of solid stone between him and the surface to find out if the Sun was over the yardarm. It must have been. "Don't mind if I do," he murmured. "Thanks." Ben noticed that he got himself one of the same.

Ben hoisted his bottle and triggered it, firing a shot of beer into the back of his throat. It was good, with a rich, malty flavor. He was glad he'd had at least a little private practice with lunar beer bottles. The trouble was the lower partial pressure. Uncap a regular bottle and it would foam uncontrollably. Draft would be all head. The first time he had tried to drink from one of these he'd shot himself in the nose.

He put the bottle down. "Nice place. Yours?"

The man shrugged. "Until MOON raises my lease again." He fired back a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

long swallow of his beer. "Bastards." He offered his hand. "Name's Jimmy Hatch, by the way."

Ben shook it. "Ben Kuhn."

"Please to meetcha." Hatch glanced back down the bar. "If you'll excuse me a moment." He headed toward the other end, where three young Japanese men were frantically signaling for another round.

Ben had another shot of beer, looked around. The man in red was back with his friends, probably having called his wife and told her he was somewhere else. The big blond guy was trying to cop a feel from the waitress—who didn't look happy about it. One couple was leaving arm in arm, wearing the sort of sappy grins that meant either new love or too much wine.

Hatch came back, picked up his beer again. "So what do you do, Ben?"

"I'm a writer." A stocky, stoop-shouldered man in a faded green coverall came in and sat down two stools away. Without looking away from Ben, Hatch bent down, got a beer and put it before the man, who gave a nod of thanks then gazed around him with an air of expectancy.

"You mean like books?" Hatch asked, looking faintly impressed.

"Like anything I can get something per word for. Mostly I ghostwrite." Ben spoke while looking down. He'd just noticed the label on his bottle and stared at it in fascination. It bore a small moving hologram of a laughing mermaid. Her tail flipped and her pert breasts bounced merrily as he moved the bottle. "Just moved to Ambrosia. MOON gave us a place not too far from here."

Had Ben been looking up he would have seen a sudden wariness on Hatch's face. Or that he had caught the attention of the man who had just come in.

The man in the green coverall slowly put down his beer, both knuckly hands tight around the bottle. "Where?" he asked in a low, toneless voice.

"I don't—" Hatch began.

"Rad 3, Ring 6, Number 12," Ben answered, finally looking up. If he had looked up first and seen the tight, strained look on the man's face he might have thought twice before answering.

As it was, he saw the man turn toward him, slide off his stool, and was just beginning to register the wild-eyed expression on his face before his fist caught him square in the mouth. The next thing he knew he was crash landing on the floor, the back of his skull hitting the stone hard enough to bounce.

Ben shook his head in groggy bewilderment. He stared up at his attacker, his head ringing like a gong. Even though he was fairly sure there was only one man in green standing over him, he was seeing a blurry two. Both looked very big and very angry.

The man held up his knobby fists as if trying to decide where to hit Ben next. His eyes were narrowed into slits, his lips peeled back from teeth so tightly clenched that the muscle cords in his neck and jaw twitched.

"Simon, don't," Ben heard Hatch warn through the ringing in his ears. *Please*, he amended woozily. He tried to say it out loud but his mouth didn't seem to be working right.

The hard, crazed look on the man's face crumbled like a sand castle swept by a breaker of despair. His eyes fully

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

back in focus now, Ben saw that the man was blinking back tears. His trepidation began to subside.

"How can you—!" the man cried hoarsely, shoving his hand into his pocket with a desperation that set a writhing snake's nest of fear loose in Ben's chest as he realized the man might be going for a knife, a gun, a—

Ben's attention was so tightly focused on his attacker's hand that he yelped and flinched backward when his attacker suddenly disappeared under a pile of bodies.

"*Stop that, dammit!*" Hatch bellowed, just barely audible over the curses and cries coming from the seething knot of arms and legs and furious faces, and completely ignored. Ben scrabbled back away from the melee, and by the time he managed to get his rubbery legs under him it was over.

Two of the men in red coveralls held his attacker's arms pinned to his sides. The third, a tall, grey-haired black man stood off to the side, the gleaming black nightstick in his hand a silent warning to the other patrons to not get involved. Ben saw anger on some faces, satisfaction on others. The man with the nightstick looked nervous and uncomfortable.

Crack! Ben's frayed nerves jumped at the sudden sound. He snapped his head back around in time to see the beefy blond man lower his hand and step back. "That was a dumb-ass thing to do," he said. "Don't your kind ever learn you can't get away with this kind of crap?" He took a deep breath and let it out. "Get him out of here."

The man who had punched Ben hung slack and unresisting as the two men in red dragged him toward the bar's front door. His face was battered and bruised. A livid red handprint bloomed on his cheek. He looked up at Ben. There was no hatred in his face or eyes. Only something Ben could not quite name.

His bloody mouth moved. "I'm sorry," he rasped. Then he clearly, distinctly, and with a chilling oracular calm added, "It could be you."

Ben shuddered and turned away, remembering those same words on a scrap of red plastic. He got himself back on his stool and tried to catch Hatch's eye so he could ask what the hell had just happened. The bartender stood there, rigid as a post, watching a good many of his customers get up from their half-finished drinks and drift quietly toward the door. He did not look the slightest bit amused now.

When a hand fell on his shoulder Ben nearly screamed. He jerked and spun around, this time ready to duck.

It was the big blond man. He looked even bigger and beefier up close. He grinned and held up his hands.

"Easy, buddy. I just wanted to check and make sure you were all right."

"I guess I am," Ben answered. His lips felt loose and numb. He reached up to make sure they weren't about to fall off.

"Whacked you a good one, didn't he?"

"Never saw it coming." His lips were getting puffy and he could taste blood, but all his teeth were present and accounted for. He realized that he had been more stunned by the blow than anything else.

"Well, *I* should have," the man said unhappily. He looked pensive, his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

broad forehead furrowing. "That guy's a known troublemaker. A real nut case." He sighed. "But I guess you have to give folks the benefit of the doubt, right?"

"I guess," Ben answered, not exactly sure what it was that he was agreeing to.

The sunny smile he received told him he'd given the right answer. "Damn right." He put his arm around Ben's shoulder. "Come on over, meet the cavalry."

Ben saw that the three men in red had returned to their table. He wasn't really up for it, he'd had more than enough fun for one night. But he supposed he owed them something for bailing him out of a very scary situation.

He glanced back over his shoulder at Jimmy Hatch. "Could you please bring us a round of drinks on me?"

His new friend slapped him on the back. "Hey buddy, you're all right!"

Hatch still had not moved. He stood there, arms crossed, his long face wearing a look that might have been disappointment, disapproval, or both.

"Thanks again! G'night!" Ben closed the door and got himself turned around, blinking owlishly into the gloom. The only light in his new cubby was the faint blue luminescence given off by the glowstrips.

He clapped his hands. "Let there be light!" Nothing happened. So much for a man being a god in his own home. He tried again. "*Command*. Lights low."

This time they responded, slowly brightening. He tottered into the main room, moving with exaggerated caution because his feet and head seemed only distantly connected to his body and he had to operate on something like remote control.

He couldn't remember how much he had drank. Too much, too fast. Never would have found his way home if those guys hadn't helped him. Could have ended up anywhere—and then where would he have been?

He giggled, then pulled a serious face. Gotta remember those guys' names. The big blonde guy was Earl Broome. Call me Earl. Helluva nice guy. After the first round the drinks were on him. The older bearded black guy was Mack Powers. Real quiet, wound so tight he nearly hummed. Then there was Norm Somethingorother, and Alf Somethingorother—no relation. Norm was the short, pale and pudgy one, Alf the fox-faced one with the German accent.

He made his final approach to the couch, his arms held straight out from his body like wings. "Prepare for landing."

His landing must have been handled by autopilot because the next thing he knew he was flat on his back and wondering why the couch was spinning. He got a grip on the cushions to keep himself from being thrown off, and congratulated himself for being able to hit a moving target.

Not long after, the comm began buzzing like an angry hornet. Ben frowned in his sleep, curled into a ball and fumbled a pillow over his head to shut out the sound. It was a full minute before it stopped. As if that had been some sort of signal, he began to snore.

Ben had been up and around long

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

enough for four paintabs, half a cup of Kafi, and one regret for each and every pulse-driven throb of his head when the comm buzzed again. He groaned, hauled himself to his feet and shambled over to it.

"Yah?" he croaked after stabbing the RECEIVE tab. He wrenched his aching eyeballs into focus on the screen.

Oh god, *Laura*. He was supposed to have called her last night, wasn't he? One look at her stiff, tight-lipped face and he knew that she'd worked herself up into a fine rage.

"Where the hell were you last night?" she demanded, the honed stridency in her voice driving a spike of pain into his forehead hard enough to make his eyes cross.

"Bein' stupid," he admitted. His only hope was in begging for mercy. Groveling, if he had to.

"I'm sure. You were supposed to call. You didn't. I called three times. You never answered." Each statement a nail in his coffin.

"Something, um, came up," he began.

"I'll bet it did," she sneered. "Who'd you put it in? Was she pretty? Did her husband catch you at it?"

It took Ben a couple seconds to figure out that she was talking about his bruised and puffy lips. As for the rest, he'd been half expecting it to come up eventually. That was one of the reasons he hadn't wanted to come by himself. He'd known that sooner or later she'd begin torturing herself with visions of him being unfaithful once he was out of sight.

He forced himself to smile, even though it made his mouth hurt. "You're the only one I love," he said simply, leaving unsaid the thought that all too often followed: *No matter how hard you make it*. While that reassurance didn't completely thaw her face and attitude, it bought him a chance to tell the story of what had happened the night before.

When he was done Laura still didn't look very happy, but he could tell that he'd at least bought a grudging forgiveness for the transgressions he hadn't committed.

She shook her head. "I still don't understand why that man attacked you."

"Neither do I. Earl—that's the guy I was telling you about, the one who did most of the talking—said he belonged to some sort of lunatic fringe radical group. He told me some other stuff, too. But after a couple beers on top of getting punched in the mouth and klonked on the back of the head, I wasn't tracking all that well." He had a muddy memory of agreeing that yes, it was a shame how some people were never satisfied. Who, and with what, was a mystery.

"I don't suppose you were." She glanced offscreen, then gave him a look of unmistakable warning. "I've got to head for work now. Can you stay out of trouble until I get there the end of next week?"

"Trust me, I've had trouble enough to last me to the end of the *century*. Want me to call you tonight?"

"You better." Not a trace of a smile.

"Don't worry, I will. I love you."

That made her blush and avert her face. "Love you," she mumbled, suddenly bashful. That odd, unpredictable vulnerability was one of the things he loved best about her; some of the roses

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that grew on the thorny vines of her personality. The screen blanked as she cut the connection.

Ben blew out a pent-up breath and rubbed his eyes with his fingers. Another marital meltdown averted.

Two cups of Kafi later, he went upstairs to begin setting up his office in the first small room at the top of the stairs.

Fourteen months in his tiny work area back on Tycho had left their mark on him. He set up a small table in the far corner, staking out a space almost exactly the same size as the space he was used to. He unrolled the oversized auxillary screen and hung it up, same place, different wall. Trusty compad on the table. In a handy niche within easy reach a couple dozen miniops containing his personal reference library and archived material. A handful of special purpose softs.

Many things had changed for writers in the last couple hundred years. First the change from goose-quill pens to steel points, then to clanking, finger-numbing manual typewriters, and after that the feather-touched high speed electric. Then had come the first big, fragile, complicated computers which had gotten smaller, faster and evolved into the compad.

Ben believed that even if the next two hundred years brought just as many changes, writers were still going to want *bookshelves*, and by damn he had some now! Onto them went the few precious books he'd brought up from Earth. On another shelf went his own personal output. Bound or miniopted instructional manuals, textbooks, and clippings. The over three dozen novels and autobios he'd "edited" or ghosted.

Then he put up some personal reference points, hanging them on the wall within easy sight. His first rejection, framed in black. His gold-framed first acceptance, and under it a photocopy of his first check. A picture of his personal muse, his grandmother Djemileh, given a place of honor where she could watch over his work.

The last object out of the crate was a wood-framed picture of Laura and himself on their wedding day, taken by the wife of the Justice of the Peace who had married them. He held it in his hands, remembering how on that very day they had applied to emigrate to the Moon.

He knew that he would not be here in this new office, in this unbelievably spacious cubby, in one of the newest and nicest downs on the Moon, if not for her. He had dreamed of the Moon. She had pursued it with a relentless, unswerving determination that bordered on monomania. The money he made writing might have been the fuel that got them here, but she had been the engine.

"We made it, love," he told the picture. Their marriage had survived all the stresses and strains of reaching for the dream that had brought them together, and the shared goal of their lives was finally in their grasp.

He hung up the picture, pulled out his chair, and began his first working day in his new office in his new home.

It was mid-evening. He had already called Laura and checked in, suppressing the feeling he sometimes got that he was married to a bomb which had to be periodically defused. Dinner

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

had been eaten in front of the vid, and now an hour later, he wasn't sure what he'd watched or eaten.

He could always go back upstairs and work for a while longer. He could read. He supposed he could go back into the garden and putter for a while, but the place made him nervous.

The problem was that the restless, jittery feeling that had him pacing around the cubby wanted one particular outlet.

What he really wanted to do was go back to the Escape Hatch. No doubt he had made a complete fool of himself the night before, and ought to go back and try to prove he wasn't a total idiot. But that was of secondary importance to finding out just what the hell had happened. And why.

Especially why. *He was crazy* didn't cut it. There had to be some reason that man had hauled off and punched him. Had to be. Even more disquieting was that parting shot. *It could be you.* His mind kept going around and around trying to get a grip on that like a dog trying to bite a burr out of its tail.

"The hell with it," he muttered, going for his wallet and jacket. One beer. Two tops. This wasn't going out drinking. This was a fact-finding mission.

It was fairly quiet at the Escape Hatch. A half dozen people at the bar, that same number watching what looked like an Earth Soccer game on the big vid, a handful of couples in the booths and at the tables.

Ben slid onto a stool. Hatch was talking to a tall, thin black-haired woman at the far end of the bar, the look of grim intensity on their faces telling Ben that they weren't swapping jokes.

The woman stalked off, hugging herself as if trying to hold something inside. Hatch spotted Ben and walked slowly over.

"What'lyahave?" His voice was toneless and mechanical, his gaze flat as the bartop.

"Another one of what I had last night." Hoping to thaw Hatch's attitude, he added, "One for you, too, if you want."

"No thank you, sir." He reached down and pulled a beer from the cooler.

Sir? The sudden honorific felt like a put-down. Ben decided to tackle the matter head on. "Did I do something wrong last night?"

Hatch studied the bottle's safetap before snapping it off. "Something wrong, sir?" He put the bottle down, then wiped his hands on his apron. "Like what?"

"Well, like punching that guy in the fist with my mouth, for instance."

Hatch shook his head. "No, that wasn't your fault."

"I didn't think so, but I'm new here and what the hell do I know? I'm sorry it led to a brawl, but I sure am glad Earl and his friends stepped in when they did."

"I bet you were." Hatch said heavily. "Must've made you feel pretty good to see Simon get the hell beaten out of him for hitting you."

"No, because I thought he was going to kill me!" Ben shot back in exasperation. "I mean, he was reaching into his pocket for a knife or maybe even a gun when they grabbed him!"

Ben saw the bartender's hooded green eyes widen in sudden comprehension. He shook his balding head. "The

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

problem with being in the middle is it sometimes looks like everybody's on the other side," he said, lips twisted into a bitter smile. He reached down without looking and got himself a beer, snapped the safetab and drank half of it in one long shot, then leaned on the bar.

"How long have you been here, Ben?"

"Two days." Ben noticed he was no longer "sir."

"How much of Ambrosia have you seen?"

"Not much," he admitted. "I've been sticking close to home until my wife gets here, figuring we can see the sights together. Probably wouldn't have come here if I hadn't seen your ad."

Hatch snorted. "Who can afford ads?" Before Ben could tell him about the one he'd seen, Hatch leaned closer and quietly said, "Then you probably don't know that there's a war going on here."

Ben stared at him, searching for evidence that he was joking and seeing none. Hatch looked dead serious. "You're not kidding, are you?" he said at last.

"Nope. It's the same war going on in other places on the Moon. What we got here is one of the battles. What you got caught up in last night was like a, you know, one small fight out of a bigger one. . . ."

"A skirmish." Supplying the word was as automatic as breathing. It was on his tongue and out his mouth before its meaning had time to fully register.

Hatch straightened back up. "That's what it was," He looked past Ben's shoulder. Ben turned and watched three well dressed men come in and head for the bar. Hatch moved off to serve them.

Ben fired back a slug of beer, trying to get a handle on what he'd just heard. Earl had said there was some sort of radical lunatic fringe, and he guessed there always was. But it was hard to believe that he and Laura had moved into the middle of a *war*—or been moved into it. What kind of war? Why hadn't he heard about it, seen any evidence of it?

He contemplated the bottle in his hand. Now the mermaid seemed to be laughing at him.

"Hey there, buddy!" Ben was startled out of his glum musings when Earl Broome suddenly appeared beside him. He slapped his big hand down on the bar and bellowed, "Me and my partner need some beers here, Jimmy boy!" Hatch looked up, then went back to mixing drinks.

Earl turned back toward Ben, leaning his elbow on the bar. "How's your face and head?" he asked cheerfully.

"OK, I guess," Ben said edging back on his stool. Broome was standing practically on top of him.

"Glad to hear it! You're damn lucky that guy didn't kill you."

"He didn't hit me that hard."

"Hit hell," Broome said. "He — well, here comes our Jimmy. I guess there's no sense spoiling a good beer with the gory details. You want another mermaid piss?"

Ben shook his head. "No thanks, I was just getting ready to leave." He wasn't sure about the source of tension between Jimmy and Earl, but he was pretty sure the bartender wouldn't talk when the other man was around. He could probably ask Earl what was going

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

on, but shied away from the idea. Big, friendly, self-confident, jockish, good old boy types like him had always intimidated Ben. They always made him feel like a skinny skittish wimpy bookworm—accent on *worm*.

"Hey," Broome said, looking hurt. "I helped save your butt last night! Least you can do is have a beer with me."

Ben couldn't see any graceful way out. He owed the guy something, and one more beer wouldn't kill him. "OK, but just one. Then I've got to get home. I'm expecting my wife to call." That was even partly true. She might just call to check on him.

Broome chuckled as he slid onto the next stool. "Wouldn't want to piss off the little woman, would you?"

You have no idea, Ben thought as Jimmy appeared in front of them. "Yeah?" he asked gruffly.

"A fish-lady for my friend here, and a real Earth Bud for me," Earl told him, flipping a twenty-credit chip in his direction. "Keep the change."

Hatch let the plastic coin fall to the floor. He set up their beers in tight-lipped silence, turned on his heel and stalked away, leaving the chip where it had fallen.

Broome winked at Ben. "That's what I like about this place. The friendly atmosphere."

Ben couldn't help laughing.

The one beer had turned into two. When Ben headed home Earl tagged along. He had started telling Ben about all the things that made Ambrosia such a great place to live right after his joke about Jimmy, and was still going strong.

Ben had to admit that he was tempted to say to hell with waiting for Laura to get there before taking the grand tour. Broome had described what Ambrosia offered in glowing terms. The huge, parklike downcenter plaza., The mall under it, its stores filled with both lunar and imported Earth goods. The restaurants and bars, the gamepalaces and casinos. The health club with its baths and real Olympic-sized swimming pool. The *Library*.

There was a big yellow envelope stuck to Ben's front door. At first he thought it was just another ad. Then he saw what was written across it in tall black letters:

OFFICIAL WARNING

"Aw hell," Earl muttered beside him. "They're after you, too." Ben took the envelope down, started to open it.

Earl stopped him. "Don't open that yet."

Ben scowled up at the bigger man. "Why not?"

"Well," Broome said slowly, "Cause it's going to look like real bad news unless I explain something first." He sighed, rubbing his big square jaw.

"See, there's a bunch of people here causing all sorts of trouble. Doing stuff like this and worse. *Much* worse. That guy who came after you last night was one of them. He was looking for you, trying to terrorize you. This here is just another of their ways to get at you. But . . ."

"But what?" Ben demanded, starting to get a real bad feeling about what Earl was hesitating to tell him. What he'd said so far was bad enough.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You know the line *I got some good news and some bad news*?" Ben nodded. "Well, the bad news is they're going to keep trying to drive you out of your place, and some of them will stop at nothing to do it." His blue eyes bored into Ben's. "You understand me, *nothing*. So you're going to have to stay on your toes if you don't want to get hurt."

"OK," Ben said, sounding calmer than he felt. "What's the good news?"

He could see Earl relax a little bit, and that made his own internal tension ease off slightly. "The good news is that you don't have to face this alone." He pulled a pen and a piece of folded paper out of his jacket pocket, then scribbled something on the bottom.

"Quite a few concerned citizens have kind of banded together for protection. We're all in this together, and we're here to help you. If you want to help us, so much the better." He glanced at his watch. "I'd love to stick around and explain it all to you, but I've got to run. After you read that warning, you read this." He handed the paper over, his face earnest. "That's my personal number on the bottom. You want any help you call me. Day or night."

Ben held the yellow envelope in one hand and the paper Earl had given him in the other. "But I don't—"

"I know it's confusing," he said sympathetically. "You just remember what you went through to get here, and that when the chips are down there's folks ready to step in and help, just like last night." He patted Ben on the back and started off down the tunnel.

"Wait!" Ben called. Earl stopped and looked back. "About last night. What was that guy going to do to me?"

A pained expression appeared on Earl's face. "Why don't you just let that slide. You got enough on your mind for one night."

"Tell me," Ben insisted.

"All right," he said unhappily. "Now you understand that I can't say for sure what he was going to do, but he had a fully charged lazill on him." Ben watched him stride off, turning the corner and disappearing from sight.

He knew what a lazill was, had seen small ones used to cut holes for optic cables and the like. A hand-held model could burn a thumb-sized hole through a foot of solid rock in a matter of seconds. As for flesh and bone . . .

The image that followed had him letting himself into his cubby in something uncomfortably close to total panic.

Ben sat on the couch, nursing a drink made from his own small stock of liquor. He had read and reread the papers on the table in front of him until he had reached the point where he could almost recite them by heart.

The yellow envelope had contained a sheaf of papers written in dense legalese. But there had also been a cover letter from MOON distilling the matter into its cold acid essence.

A class action suit had been brought against both MOON and the occupants of certain cubbies in Ambrosia Down by their former occupants. If he and Laura chose to stand by their lease contract and did not vacate the premises within fourteen days, they too would be named as defendants in the suit and liable for a portion of legal costs and punitive damages if they lost. If they chose to vacate, the housing shortage prevented

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

MOON from being able to promise a comparable space, but they could guarantee a place in the Tycho warrens, and that reassignment would be made as soon as was practical.

The paper Earl had given him was an invitation to join something called ACSPAN. The Ambrosia Citizens Self-Protective Action Network. Its tone was subdued and apologetic, stating that members of a certain anarchistic radical faction inside Ambrosia were trying to frighten and dispossess lawful citizens, commiting acts of legal and verbal harrassment, vandalism, sabotage, and outright terrorist-style violence. To protect their lives, property, and neighborhoods ACSPAN had been formed. As a concerned, upstanding citizen he was urged to join for both his own protection and the protection of the whole community.

There had been more: information about legal help and citizen patrols, statistics charting the rising violence. But none of that had hit him as hard as the line at the bottom: *Join us. If you're not a part of the solution, then you're a part of the problem.*

Ben stared sightlessly at their still unplanted rose in the center of the table. He couldn't help wanting to cling to the belief that what had happened in the bar the night before had just been an isolated incident. It was just too chilling to think that it had really been a brush with some larger force that was going to keep coming after him until it either scared him off or got him.

There's a war going on. Jimmy Hatch had said. It looked like there sure as hell was.

He closed his eyes and sipped his drink, trying to imagine giving up this new cubby and going back to Tycho. He couldn't. He and Laura had worked too hard and waited too long to get here. They had earned it. Going back to the warrens would be the end of their marriage. They'd be better off going back to Earth.

So what was he supposed to do? Couldn't there be a middle ground between running and fighting back?

He jumped clear off the couch when the front door chimed, the dregs of his drink catching him in the face. "Coming!" he yelled irritably, wiping himself off as he headed for the door.

There was nobody there. As he stepped out to check the tunnel he felt his foot bump into something.

He looked down, the blood draining from his face and his insides turning to ice.

Someone had left a present on his doorstep.

It was a doll. Its head had been separated from its body. *Decapitated*, his mind insisted. The body lay on its back, arms raised as if to beg for help or fend off attack. A toy compad had been nailed to one of its small hands. The head sat upright on the stump of its neck just beyond it. The doll's hair had been painted black to match his own and a black mustache had been painted under its nose. An ugly hole had been burned into the center of its forehead. Above it were four words scrawled in red.

IT COULD BE YOU!!

Ben stared down at the grisly little present the welcome wagon had left on his doorstep. The doll's china blue eyes stared back. Vacant. Innocent. Maybe even surprised, like it hadn't seen this

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

coming.

The message was simple and explicit. The urge to bolt back inside, triple lock the door behind him, and maybe hide under the bed for good measure filled his brain to nearly overflowing.

"It's just a doll. Nothing to be frightened of." He tried to force a smile onto his face but only produced a sickly rictus, the look of a man trying to fend off a hundred razor-sharp blades of terror with the blunt stick of reason. "It can't scare me if I won't let it."

Biting back a wave of revulsion he reached down and picked up the doll's body with his left hand. *That wasn't so bad*, he told himself encouragingly. Now for the head. . . .

He flung it away with a gutteral cry of horror when a gout of livid red gushed out the neck, the revulsion turning to hot acid surging up the back of his throat. The head turned end over end, spraying droplets of bloody red as it flew toward the other side of the tunnel. It hit the far wall at knee level, leaving a Rorschach spatter, bounced onto the floor and tumbled back toward him, coming at him, coming for him.

He stumbled backwards, the door frame cutting off his retreat. The head stopped not half a meter from his feet, the last dregs of red dripping from its neck.

Ben swallowed hard and closed his eyes, after a minute regaining enough self-control to pick up the head again. Then he gingerly carried the doll's remains inside and closed the door behind him.

He bore his grisly trophy to the kitchen and dumped it on the sink's drainboard. Going on the hazy notion that they might be some sort of useful evidence, he put the body and head in a plastic bag for safe keeping. Breathing deeply, he began washing his hands, trying to scrub away the fear he felt along with the red staining his fingers. It was paint, not blood. That made it easier to take and harder to remove.

When the door chimed again he nearly screamed. Snatching up the first thing that came to hand, he raced toward the door ready to teach someone a lesson.

It was hard to say who was more startled, Ben or the woman who stood there uneasily contemplating the red puddle next to her slippered feet.

"Mr. Kuhn?" she asked timidly. Her green eyes were very wide.

Ben realized that he was glaring at her like a bug-eyed maniac, a plastic spatula clutched in one red-stained hand. He hid it behind his back. "Uh huh?" The adrenaline rocketing through his bloodstream turned his voice into a high vibrato.

"Jimmy sent me to give you this." She nervously held out a small flat package. The look on her face told Ben that she was afraid he might just take her fingers with it.

Jimmy. Hatch. Mental tumblers clicked into place. This was the woman who waited tables at the bar. That gave him a yardstick for how freaked he had been, he should have recognized her long red hair and bottle-green eyes.

"What is it?" He reached for it with the hand holding the spatula, blushed, and used his left instead.

"I don't know. Jimmy just said to tell you it belonged to the man who attacked you the other night, and to tell you his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

name was Simon Levanthal."

Ben stuck it in his pocket because his fingers were still sticky with paint. "OK, thanks, uh . . ."

"Chloe." She didn't offer her hand. Ben didn't blame her.

She edged back. "I've got to get back to work now."

"Wouldn't want to get fired," Ben agreed lamely, beginning to think that if he got her to think he was just a harmless idiot he'd be improving her opinion of him considerably.

"Jimmy is my uncle, Mr. Kuhn," she said solemnly, retreating another couple steps before risking turning her back. Off she went. Not quite running, but not exactly dawdling either.

Ben shuffled back inside and made a beeline for the kitchen cabinet where the liquor was stored. He poured himself a straight whiskey and knocked it back. His eyes watering, he poured a second, and didn't give that one time to evaporate on him either. He carried a third up to bed with him.

His sleep was uneasy, filled with foreboding dreams that had him clutching the pillows and whimpering. It had been years since he had last dreamed of his grandmother, but that night she drifted through every one of his dreams, her gaze dark and cryptic above her black veil, her bony fingers beckoning him the way she used to when she called him over to tell him a story. Yet all she would say to him in her broken English was *Remember*.

When all else is said and done, writing is at least 85 percent discipline. You chain yourself to empty pages until you have filled them. Simple as that.

Ghostwriting is almost the antithesis of the obsession of personal expression that drives most art. Even in those times when Ben got depressed over having smothered his own voice to become a well-paid hack, he could still strap on the creaking steel suit of discipline and keep hacking.

Today the suit was a hollow shell. He had managed to keep himself at his desk and compad all morning and part of the afternoon; vainly trying to keep his mind on his work, "editing" the memoirs of opera singer Tancred Levy.

The man had one helluva singing voice, but as a writer he had a tin ear. The man's badly described romantic conquests couldn't hold Ben's attention. He kept seeing a despairing man dragged out the door by men in red. A headless doll. *It could be you* written on a scrap of red plastic and scrawled in red. A toy compad nailed to a tiny pink hand.

If that wasn't bad enough, his grandmother kept staring at him. Finally he gave up and stared back at her picture. "Didn't you bug me enough last night?" he demanded.

No answer.

The expression on her face . . . could not be named. It was the mother or center of all expressions, the white light produced by all the colors of the spectrum. For Ben her picture was a sort of personal I Ching; he could often see in her face things which eluded him otherwise.

Today there seemed to be an air of reproach in those dark eyes which had seen so much. Ageless eyes set in a wrinkled face that had been hidden behind a veil for so much of her life. He

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

scowled at her. "Have I done something wrong?"

No answer. He leaned back in his chair and crossed his legs. Something poked him in the upper thigh.

He shoved his hands into the pocket of his baggy pants, his eyes widening in understanding as his fingers closed around the small mysterious package Jimmy Hatch had sent him.

Inside the wrapping was a palm-sized square of hard plastic. He turned it over. Behind the clear plastic was a picture. He recognized the man who had attacked him, Simon Levanthal. He had one arm looped around the waist of a bone-thin black-haired woman, his other hand resting lightly and proudly on the shoulder of a mischievous-looking girl maybe eight years old.

Both Simon and the woman wore the self-conscious grins of people unused to posing for pictures, but there was no mistaking that they were deliriously happy in that frozen moment when the picture was taken. It came through so strongly that Ben had to smile himself.

He chuckled and put the picture down, snatching it right back up again not two seconds later.

"No," he said tonelessly. "It can't be."

But it was, and it threw a harsh, pitiless light over the situation. Now that he was looking at something other than those three happy faces, the setting where the picture had been taken had a terrible familiarity. It was the garden of this very cubby.

He didn't need to read the metal wafer wired to the base of what they were posed so proudly beside to know its name was—

Tranquillity Rose.

There was an intradown electram station just a couple minutes' walk from Ben's cubby, and he got there just in time to catch an inbound. Fifteen minutes and five stops later, he reached the bustling outer loop of downcenter.

Ambrosia was laid out like an eight-spoked wheel, each spoke a Rad and downcenter at the hub, eight widening concentric circles forming the Rings. His destination was a short distance out the upper level of Rad 6, almost on the opposite side of downcenter.

He resisted the temptation to take the ramp to the upper level and check out the central plaza while he was this close, instead setting out along the broad, store-lined lower boulevard at a brisk walk. Maybe after he got this over with he could indulge in a little sightseeing.

Two things kept it from feeling exactly like a particularly mazelike Earthside mall; the lower gravity and the air-grass floors. The spacious, high-ceilinged tunnel was lined with shops and stalls. There was the smell of food in the air, along with snatches of conversation, laughter, and music. There were even trees in planters, and benches for those who wanted to rest from shopping or only sit and watch the world go by.

For the most part things looked new and clean. Yet here and there he saw graffiti splashed on the walls. IT COULD BE YOU and ACSPAN = NAZISM were two popular slogans, WE WERE HERE FIRST! coming in a close third. He saw one darkened shop with a sign reading RUINED BY MOON

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

—YOU COULD BE TOO! in the window. Quite a few of the stores specializing in imported Earth goods had guards posted outside.

Even though he was in a hurry, he couldn't keep himself from doing a little people watching. He noticed quite a few single adults with children in tow. Twice he had to step aside to keep from getting caught up in eddying tides of giggling, hyperactive adolescents. He detoured around slower moving older people, couples more often than not. There were quite a few of them. If you could afford to retire to the Moon you might add another ten years to your life.

He saw a broad mix of races and ages. Most of the people he saw were well dressed, not a few of them in the latest Earthside fashions. The general tone was one of quiet affluence and leisure. It made him realize how shabbily dressed he was in his baggy pants, faded shirt, and ratty old leather jacket.

But moving among them like ducks among the swans were more than a few people in worn work clothes, or what was obviously their threadbare best.

More than their attire set them apart. They moved faster and tended to keep their heads down, which gave them an air of almost furtive purposefulness. He saw one man in toolbelt and coveralls step aside and bow when his path crossed that of a handsome gray-haired woman in a tailored silk suit. The woman sailed past him, staring straight ahead, her face hardening. Ben saw the man grin crookedly to himself as if he had won some small obscure victory. He saw variations on that same dance repeated several times.

Ben began to understand that not only was there was a sharp division of class here, the boundary apparently an economic one, there was also an unspoken but unmistakable friction. All he had to do was look closely at the faces and actions of those around him to catch glimpses of a subterranean fear, mistrust, and even anger. Occasionally he saw brief flashes of outright contempt and hostility.

Another part of the overall picture had started to resolve. The sheet Earl had given him about ACSPAN stated that they had organized community patrols.

The flyer had made them sound like a small, loosely organized group of neighbors looking out for each other. But the more pairs of hard-eyed men and women in red jumpsuits he saw, the more he got the feeling that what he was really seeing were elements of a large, well organized paramilitary group. All of them wore pinmikes and earbugs, which suggested a fairly sophisticated communication network. There were no obvious insignia on their uniforms, but watching closely he figured out that their colored armbands signified rank.

The fact that they wore helmets suggested a preparedness for violence. That suggestion came close to a flat-out statement of policy by the long black nightstick each one of them carried.

The tunnel had gotten crowded as he approached Rad 6. There was a growing feeling of tension in the air. Almost everyone around him seemed to be moving with a hurried sense of purpose now, most of them heading up the ramps to the upper level and turning them into bottlenecks. So he turned the corner and went out the lower level of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Rad 6 instead. By the time he reached the ramp by the electram station, another 150 meters farther down, the tunnel was nearly deserted.

Ben had gotten this far by not letting himself think too hard about his destination. Now there was no way to avoid it. Get this over with and you can go see the Plaza, he promised himself.

He was on his way to the Maze. It was often said that the only thing on the Moon MOON didn't dictate was when the Sun rose and set on its surface—and they were working on that.

MOON ran—owned, really—the entire legal apparatus. Cops, courts, judges, and jails; the whole system was under its sole control. Every facet of law enforcement in Ambrosia was based in the aptly named Maze, a four-level labyrinth of offices, dayrooms, courts, and cells in the first ring of Rad 6.

After climbing the ramp to the upper level, he approached the plain steel pressure doors of the Maze's public entrance. Beyond it were a dozen MOON troopers in their gunmetal grey helmets and body armor watching what looked like one hell of a crowd gathering around some sort of demonstration at the mouth of the tunnel. Yet that was all they were doing. Watching. Even though to him it sounded like the makings of a riot brewing.

Two troopers flanked the entrance to the Maze. One moved to bar his way, a stocky, middle-aged Oriental woman. The nameplate on her armored breastplate read Sgt. Jo Xiaoxin.

"Name," she said, giving him a cool, efficient frisking with her eyes. Her voice sounded like a bored recording.

"Kuhn. Ben Kuhn."

"Address." He told her. The way she slightly cocked her head told him that she was listening to confirmation over her earbug.

"Reason for wanting admittance?"

This was where it got tricky. He took a deep breath and plunged in head first.

"It's like this," he began. "A man hit me in a bar two nights ago. I want to, well, see him if I can." There was also that damnable picture burning a hole in his pocket. He wanted to give it back so he didn't have to look at or think about it any more.

"You're not a legal aide or relative." It wasn't a question.

"No." He shrugged, trying not to get rattled. "I'm not even sure he's here. It's just I found there were some, you know, extenuating circumstances for what he did. I never pressed any charges or anything, but I wanted to make sure you weren't holding him on my account."

A wary calculation had entered the trooper's gaze. Ben couldn't tell if he was getting anywhere other than into trouble, and began wondering if he'd made a very bad mistake coming here.

Sgt. Xiaoxin searched his face for several seconds, then grimaced as if her armor was pinching. "I am sorry, sir," she said in a loud voice. "That would be impossible. Now move along."

Ben opened his mouth to protest, but she held up her hand and shot him a look that told him to shut up and stay put. First she fingered a series of studs on the back of one glove, then looked over at her partner. He returned the ghost of a nod, then made a point of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

turning away.

"Listen," she said in a low voice. "You seem like a nice guy. Take my advice and stay out of this."

"I'm not sure what you—"

"You came to see Simon Levanthal, right?" When Ben nodded she stepped closer, her voice dropping to a harsh whisper.

"Forget him. He's in the chute, and there's nothing you or anybody else can do for him. He's been charged with Assault with Deadly Intent. But he knows the exit."

"But all he did was hit me!" Ben protested.

Sgt. Xiaoxin sighed. "Four witnesses say he tried to kill you." The woman's grey eyes bored into his. "One of them's an *unimpeachable* witness, if you get my meaning. All you can get for sticking your fingers in the machine is to lose them."

"You're saying—" Ben began unbelievingly.

She shook her head, lips pressed tight. "I'm not saying nothing, you understand me? All I'm telling you is that there's stuff going on around here that you and me can't do nothing about. The best we can do is keep our heads down and our asses covered until it blows over."

The trooper stepped back, her face returning to an indifferent mask so suddenly it was like she had lowered a shield over it. Tap tap tap her fingers went across her keypad. "Now move along, sir. Don't make me have to ask you again."

Ben backed away, watching her cross her arms in front of her chest, her grey armor making her look like a statue that had come to life to deliver an oracular message and was now returning to its normal stony state.

He walked slowly toward the mouth of the tunnel, following his original plan to check out the Plaza afterward without really thinking it over. *Welcome to beautiful Ambrosia*, he told himself sourly. Where nothing is what you expect or seems to be. Where the wheels within wheels have wheels within them, ad infinitum, ad nauseum, and to hell with it!

At least this Sgt. Xiaoxin had given him one useful piece of advice: Keep your head down and your ass covered until it all blows over. Whatever the hell *it* was.

Ben was already well inside the raveled edge of the crowd at the tunnel mouth when it dawned on him that he might have been smarter to have gone back the way he came, or taken an alternate route home. Well, to hell with that, too. Grinding his teeth together as if chewing on his aggravation, he pushed his way through the throng in what he hoped was the right direction.

Before long he had to admit he was lost. He thought he heard someone call his name. He scanned the faces around him, seeing no one he knew. Then he heard it again. "*Ben Kuhn! Over here!*" This time he got a fix on where it came from and began pushing his way forward, doing his best to keep from getting knocked down.

By the time Ben realized that he was being led right into the very heart of the disturbance, it was too late.

It was some sort of demonstration. Or at least it appeared to have begun that way. He estimated that there were

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

maybe a hundred people carrying signs and trying to march. Several of the signs bore the same slogans he'd seen splashed on the walls. Others read SHAME!, HOW CAN YOU STEAL OUR HOMES?, ACSPAN = FASCISM!, MOON LIES!!, and WE BUILT THIS CITY!

He had to assume that the demonstrators had probably started out as a group, but the relentless pressure of the crowd was fragmenting them into several sign-bristling islands surrounded by a hostile sea of angry faces. They were trying to regroup, but were badly outnumbered and swimming against the current.

A deafening cacophany of curses, catcalls, and shouts of scorn pounded at Ben's ears. The very air seemed charged with impending violence. Craning his neck he looked for troopers, but there were none in sight. Just as he thought he caught a glimpse of Mona Lincoln's dreadlocked head above the crowd, someone slammed into him from behind.

He stumbled forward, nearly falling. When he got his feet solidly under him again he found himself on the very edge of a seething ring tightening around eight or nine demonstrators. The one closest to him was a pretty young latino woman, obviously pregnant, clutching a sign that read WE HAVE RIGHTS TOO! Ben stared at her, staggered by the depth of courage he saw in her frightened and yet determined face.

A thick-bodied, red-faced, shaven headed man in a white jacket forced his way toward her and deliberately spat in her face. An older man with the same dark skin and a SHAME sign started toward him, his face an outraged grimace. Suddenly a man in a red jumpsuit appeared beside the man in white, his black nightstick already whipping down in a vicious arc.

His blow caught the man with the sign on the shoulder. The sound of snapping bones sounded louder than a gunshot. The man's sign went flying and he went down with a strangled wail of pain. Ben stood frozen in horror, watching the violence unfold in deadly slow motion. The pregnant woman cried out and flung herself to her knees at the old man's side. She glared up at the man in red, gripping her sign like a bat.

"Get the grubber slut too!" someone screeched, the cry taken up by a dozen stretched and howling mouths. The black nightstick came back up in a white-knuckled hand over the woman's head.

Ben flung himself into the narrow gap between the man with the nightstick and the woman on the ground, a scream caught in his throat, his arms held up to ward off the blow. Time seemed to freeze completely for him, his awareness sharpening and spreading out like some special internal radar had kicked in.

The face of the man in red was a sweat-glazed, waxen mask, lips peeled back from his clenched teeth, eyes glassy with bloodlust. The nightstick loomed over him, gleaming black, impossibly huge. The man with the smashed shoulder groaned. He heard the latino woman sob *Papa*, and the shouts of the other demonstrators as they forced their way closer, the screams of the crowd as they urged their champion to kill him, *kill them all!*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

That shimmering bubble of timelessness burst as a shout came from somewhere in the crowd, a sharp cry that rose above the uproar like an upraised spear.

"Hey! That's the bastard who got Simon arrested! Get him!"

All hell broke loose, Ben at its innermost ring. The world turned into a chaos of grabbing hands, crazed faces, jabbing elbows and knees, that cry of *Get him!* a shouted and snarled chorus. Just before Ben's legs were kicked out from under him he realized that he was the *him* they were talking about. He crashed to the ground, just barely able to avoid falling atop the pregnant woman. Someone kicked him in the side. He gasped, gaze fixed on the terrified face of the latino woman huddled on the ground beside him and surrounded by trampling feet that threatened to crush the life—the two lives—out of her. Operating on blind instinct alone he crawled atop her and curled his body protectively around hers.

Kicking feet thudded into his body from every side. Someone landed on his back, rolled away. Hands clawed at his clothes, his arms, his face. The shouting and screaming was unending and deafening, growing louder and yet strangely more distant. He dimly realized that some of his attackers were demonstrators thinking he was trying to hurt the pregnant woman, not protect her. As he tried to explain a blow caught him in the back, driving the wind out of him and his voice along with it.

He gagged for breath, hearing the woman under him whimpering, that sound drowned out by a new note of hysteria entering the furor. Hard upon it came a new sound, the sickening beat of nightsticks smashing into flesh and bone.

The next thing Ben knew was that he hurt. All over, inside and out. He forced his eyes open, squinting against the glare. Five meters above him was a curved stone tunnel ceiling. The blinding lights came from a lightstrip directly overhead.

His skull felt like an egg that had rolled down a flight of stairs. It was hard to think, but it seemed like he had been—

"Hey there, old buddy! You know, I'm beginning to think maybe I'm your guardian angel or something."

Ben rolled his head toward the voice. Earl Broome stood just a couple meters away. Smiling down at him, blue eyes twinkling. Neatly dressed. Every hair in place.

"Wha' happened?" Ben croaked.

"You were at ground zero of a riot. We got you outta there before them bastards could stomp you flatter'n gum on the sole of a shoe." He chuckled. Two of the men who had been with him that first night at the Escape Hatch were with him now, both in red ACSPAN uniforms. He couldn't remember either of their names. It was a wonder he could remember his own, the way his head felt. The short, chubby, always-grinning one giggled. The older, grey-haired, bearded black man looked from Ben's face to Earl's, and back again, his face expressionless.

The way Ben felt he wasn't so sure they had gotten there in time after all. He tried to sit up, which made his head

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

spin like a top about to fall over. He would have collapsed back if the older ACSPANer hadn't come to his aid.

"Easy man," he said, squatting beside him. He steadied Ben with one hand and peered solemnly into his eyes. "Doesn't look like you got a concussion." He probed the back of Ben's head, his touch light and sure. "Couple monster knots, but nothing worse."

"You're Mack Powers," Ben told him. "Right?"

"Sure am. You checking yourself for brain damage?"

"Something like that." Ben admitted.

Broome laughed again. "You want to see brain damage, you ought to see the way we're cracking the skulls of the bastards who did this to you."

Ben stared at Earl as if seeing him for the first time, fighting back sudden bubbling disgust. He almost pointed out that he had very nearly ended up on the wrong end of one of those nightsticks himself, but let it pass. He didn't feel like arguing or debating. All he wanted to do was go home, lock the door, and stay there until this whole mess was over.

He gripped Mack Powers's shoulder. "Help me up. You guys can have a war for all I care. But count me out. I'm going home."

"You're going to need help getting there," Mack said. He looked up toward Broome for permission. The big blonde man stared down at Ben, his face unreadable. Finally he shrugged. "Sure. I've got too many things to do to stand around waiting for him to say thanks for bailing his ass out of trouble again." A not very convincing smile appeared. "He'll figure out what's right once he gets his head on straight."

Broome turned on his heel and strode away, his short chubby shadow —Norm, that was his name, Ben remembered—right behind him.

Ben managed to get to his feet with Mack's help, swaying but staying up. He looked toward the tunnel mouth. The riot appeared to be over. The troopers had finally moved in and begun dealing with the aftermath, already having sent most people on their way. The ground was littered with abandoned signs and other debris. There were quite a few causalties. Most of them huddled on the ground with nightsticks-wielding ACSPAN members standing guard over them. He searched faces, looking for the latino woman and hoping she was all right.

Then he saw the unmistakable figure of Mona Lincoln bearing down on a stout, red-uniformed man with a pink face and thick glasses. When he stepped forward to meet her, Ben saw that he had been standing guard over the woman he had been looking for. The ACSPAN member brandished his nightstick up at Mona in warning.

The gigantic black woman grinned down at him and snatched his stick away. She closed a big hand over either end, snapped the carbon fiber reinforced truncheon like a twig, and offered him the pieces. The man's pink face went pale as milk, then he turned tail and ran. Mona let the broken pieces fall from her hands, then bent down to pick up his former prisoner.

Ben watched her carry the latino woman away, cradled in her arms like a child. No one seemed inclined to try

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and stop her.

He faced Mack again. "Let's get out of here." The woman was in safe hands. He still hurt like hell, but he felt better.

"Sure you can walk?"

"I think so." But he leaned on the arm Mack offered him as he took a step. His legs were bruised and rubbery, but they stayed under him. He took another step.

"You live out on Rad 3, right?" Mack asked.

"Yeah." The sooner he got there the better.

"OK, we'll go to the station just down the tunnel past the Maze." Ben let himself be steered in that direction, still keeping a balancing hand on Mack's arm. Behind him the troopers were beginning to herd their prisoners into the tunnel and toward the Maze.

He's in the chute, Sgt. Xiaoxin had told him about Simon Levanthal. Is that where these folks were headed? And what was at the other end of that chute?

He glanced at the front of the Maze as they shuffled by. Xiaoxin was still at her post by the door, her face as hard and cryptic as a koan written on porcelain. She wouldn't even look at him.

"Almost there, man," Mack encouraged as they approached the top of the ramp. "Piece of cake."

"Maybe," Ben muttered, too many things thumping around inside his aching head. "But what kind?"

"Rocky Road." Mack let out a sardonic chuckle. "Even if you're lucky enough to get cake, it's always Rocky Road."

"Hey! Wake up!"

Ben groaned and burrowed deeper under the covers like some subterranean creature trying to escape after the rock it is hiding under has been taken away. But there was no escape. The covers were snatched off him.

He groaned again and managed to get himself turned around to confront his tormentor. One eye would only open halfway, and he squinted up at the figure looming over the bed in lumpish bewilderment.

"What the hell happened to you?" The blurred figure resolved, matched up with the voice, and no doubt about it, it was—

"Laura," he croaked. She was staring down at him, and he knew that look on her face by heart. She couldn't decide whether to be angry or concerned.

"Who did you expect?"

"Nobody." He sat up and hung his legs over the edge of the bed, wincing because it felt like every muscle he owned had been beaten into stiff, aching putty. A look down at his thin, naked body showed him that there was good reason to feel that way. Everywhere he looked—bruises. He ran his fingers through his hair—the only part of him that didn't hurt. "I wasn't expecting you for at least another week."

"I lucked out. They told me they had two applicants for my job, and decided to try them out to see who'd get it. They're finishing up the semester for me. So I packed up the rest of our stuff and caught the first shuttle here."

"That's great," Ben said, not quite able to come up with the enthusiasm to match his words. He groped for his pants, began gingerly pulling them on. "Let's go downstairs. I don't get some

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Kafi and some painkillers in me you're going to have to start wearing black."

"OK." She picked up his shirt and watched him try to stand up. It only took two tries. "You sure are a mess."

Ben bit back the impulse to thank her for telling him what was already painfully obvious. "Not enough beauty rest," he mumbled and let it go at that.

Kafi might be made from yeast and pondscum, but Ben loved the stuff anyway. He always bought black label, which was the highest caffeine content. He'd washed down three painkillers with his first cup, and now that he was on his third they had kicked in. Being wide awake wasn't as bad as it might have been.

He watched his wife over the rim of his cup. To say that she liked their new cubby was something of an understatement. She *adored* it. She gloried in it, literally dancing around the main room as she went on about how much she loved this, and how that was just perfect.

Methodical person that she was, she had already checked the place out pretty thoroughly by going through it room by room trying to find him. Since the master bedroom had been the last one upstairs, it had been the last one she had checked.

As for the shape he was in, she seemed to have forgotten it—or at least decided to let the matter rest for the time being.

That was fine with him. He wasn't looking forward to explaining to her the downside of living in Ambrosia Down. He was glad he'd put the legal papers and decapitated doll up in his office for safekeeping. Sooner or later he would have to grab the bull by the tail and face the situation, but he needed a chance to figure it out for himself first.

Or better yet, figure out how to sweep the whole mess under the rug. All he really wanted to do was hole up in his office and get some work done. He'd gotten behind on Tancred Levy's autobio, and he'd promised Morty the first five chapters as of today. One of the reasons he always had as much work as he could handle was that he always delivered on or ahead of time, and he didn't really want to let his reputation get tarnished.

Ben watched his wife come back to the table, so happy that the beauty she usually kept hidden behind a harsh and severe mask shone through sweet and true. Although he loved seeing her like this, and hated to think of her in such terms, her early arrival was a complication he could have done without.

"So you like the place?" he asked mildly.

"I love it! I can hardly believe it's ours."

The picture of its former owners flashed in his mind, but he managed to keep the pang he felt off his face. "The few parts of Ambrosia I've seen are just as nice. I'd love to go out and show them to you—" he made a show of checking his watch, "—but I've got the first five chapters of that Levy book due by the end of the day."

She shook her head. "Don't let me mess up your schedule. I know you've got to keep Morty happy."

"Morty thanks you, I thank you. I should be done sometime late this afternoon if you want to hang around and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

wait. . . .''

Laura bit her lip. ''I was hoping you wouldn't mind if I went out and looked around for a while.'' She made a helpless gesture. ''I'm just too excited to sit still.''

He already knew that. She jittered nervously from foot to foot with an almost childlike eagerness to go out and explore.

''Go,'' he said with a laugh.

''You're sure?''

He stood up and flapped his hands at her. ''Scram! Vamooose! Begone, wench, lest I throw ye out!'' He limped around the table and kissed her. ''Have a good time.''

''Thanks!'' She snatched up her jacket. ''Who knows, maybe I'll even find a job!'' Out the door she went, off to conquer Ambrosia.

Ben's smile faded when the door closed behind her. He refilled his cup with Kafi, then trudged upstairs, hoping he could lose himself in his work. Although he could feel his grandmother's severe gaze all day long, she let him meet his deadline.

Laura returned just in time for supper. She immediately launched into a retelling of the highlights of her day's explorations. The marvels of the down's health club started while Ben was preparing dinner, lasted all through the meal, dessert, and a good half hour afterward. They had a full centrifuge for Earth-normal exercise. An Olympic-sized pool, if he could believe that. A track. Weight rooms. Up-to-date nautics, each exercise machine described in loving detail. They had intradown sports teams, but no aerobics or dance classes. *Yet.*

She enthused about the stores. The Plaza. The restaurant where she had eaten lunch. About some of the people she had met at the health club. About how nice and clean and orderly everything was here.

On the face of it she was excited, enthusiastic, and more talkative than Ben had ever seen her. Yet before long he started to get a sneaking feeling that there was more to it. It was like she was watching him. Gauging his reactions to everything she said against some secret yardstick, and that by not sharing her enthusiasm he was falling short of the mark. The longer it went on the more it bothered him. Usually when she played this sort of game she did it a lot less subtly, and it was driven by one of her violent fits of jealousy.

He wasn't in much of a mood for games, but knew that asking her point blank what she was up to would be like lighting a stick of dynamite. So he cheated, gently sabotaging her by insisting they have a drink or two to celebrate their reunion. She liked alcohol, but had little tolerance for it.

That was how she had ended up snuggled next to him on the couch, smiling a lot but saying little. Ben sat beside her, enjoying the warm glow in his belly and the simple comfort of having her beside him. The events of the past few days began to seem like nothing more than a bad dream.

When he turned his head to look at her he caught a fleeting glimpse of an intent frown that she tried to pass off as a grimace by shifting around as if her legs were cramping.

''I love it here,'' she said softly, her

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

voice slightly slurred.

"It is nice." The governor he'd kept on his imagination all the years they'd dreamed of this, had kept him from expecting anything this spacious and comfortable.

"It's *perfect*. This place, the whole down. Everything." Her eyes searched his face. "We've come a long way to get here."

"Sure have." Years passed were always a surprise when you added them up; the sum always seeming greater than its parts.

"Too far to go back," she said, the faintest hint of something hard and brittle as glass appearing under the alcohol slur. "Too far to ever give it up."

Ben opened his mouth to respond, unsure of what to say and never getting a chance. Laura fastened her mouth over his, sealing up whatever mild caveat he might have mustered.

Her kiss turned urgent and greedy, her tongue deep and frantic in his mouth, as if trying to lick away any arguments he might have stored there. She squirmed against him, forcing him onto his back. His battered body protested, but not very loudly due to a combination of strong drink and rising excitement. It had been almost a week, after all.

When she broke for air her voice was low and husky. "We have a new bedroom to christen, you know."

He found a warm soft place to put his hands. "What's wrong with this couch?"

She grinned hungrily down at him. "You have a point."

"More of one all the time."

"Wouldn't want to miss it," she said with a sultry chuckle, then raised her voice. "*Command*. Lights off."

The lights faded, leaving only the pale, cyanotic monochrome of the glowstrips. Ben had been about to call the lights down himself because the darkness would hide his bruises. So he wouldn't have to explain them.

Laura never cared if the lights were left on. She wasn't the slightest bit self-conscious about her body. He had to wonder if she had doused them for the same reason he was about to. If so, that led to several possible conclusions. . . .

But before long the matter seemed less and less important, and soon after that it slipped his mind completely.

The first two things Ben noticed when he woke up the next morning were how much he ached, and that he was alone in bed. He made himself get up, get dressed, and shuffled downstairs yawning and rubbing his eyes.

Laura wasn't downstairs either. He found a note stuck to the Kafimaker. HAVE GONE TO HEALTH CLUB & MAYBE JOB-HUNTING. WILL BE BACK LATE THIS AFTN. SOME NIGHT! XXX -L.

"Sure was," he muttered. "I feel like I got run through a wringer." He breakfasted on paintabs, Kafi, and a soy sweetcake, then headed on up to his office.

The first thing he saw when he sat down was the picture of Simon Levanthal and family. He sighed and turned it face down, knowing he wouldn't get any work done with them looking at him.

He turned on his compad and called up his day's work. An hour later he finally admitted defeat. "OK," he told

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the picture of his grandmother, "You can stop staring holes in the side of my head. What do you want?"

There were no answers in her fathomless gaze. In a way he wasn't surprised. She used to do this same thing to him when she was alive. Just stare at him and wait for him to look hard enough inside himself to find what it he was hiding from her or himself.

Ben sat back, and gazed at her lined visage, remembering the hours on end he had listened to stories that had somehow emerged clear and true and beautiful from her broken English.

Her stock of tales had seemed endless. She had told him the folk tales of her own childhood, and the thousand and one stories which had stayed Scheherazade's execution, interspersed with the story of her own life. Looking back, he knew that the tales this old woman in black had told a wide-eyed kid had been as much to instruct as to amuse, a way of passing on a set of values and a history. Her history.

In her own way she had traveled as far, or maybe even farther than he had. She had been a child and then a woman caught in the ancient and unrelenting grinding stones of Middle East politics. Her tales hinted at the pride and despair of her homelandless family and people. Of her inability to reconcile Islam's promises with the hate-filled exhortations she was told were the will of Allah. Of being caught like a dry leaf in the furious, ever-rising firestorm of fear and distrust and violence and revenge that ravaged her people and the land where she lived.

We were as two dogs fighting in the dust, she would say sadly. *Our teeth at each others' throats and unable to let go.*

She had been a teacher, and had not married until she was thirty. Her husband Bandar had been a shy, apolitical man. A diesel mechanic who murmured the same gentle words of love and encouragement in their bed at night as he did on the diesel engines of the Israeli buses he worked on in the day.

Then one hot and fateful afternoon he had found a bomb in the engine compartment of one of his beloved buses. Apalled that someone could harm an innocent bus, he had studied the mechanism and disarmed it. His supervisor was nowhere to be seen, but as fate would have it two very young and very green soldiers were passing by the front of the garage. So Bandar took the offensive device to them that they might dispose of it.

They saw him approaching, saw the bomb, and overreacted. A warning shout from a fellow mechanic, an American Jew, only adding to the confusion.

In that one of the million million misunderstandings which have shaped the history of that area, she became a widow. Less than a week later she learned that after four years of praying for the blessing of a child, she had become pregnant by Bandar's seed.

The death of her husband and father of her child to be was Allah's will, she was told. His death was for glory and for justice. He has served our cause by again proving what cruel and hateful monsters the infidel Jews are, she was consoled.

And yet she saw Bandar's fellow mechanic, Jew or not, crying like a child

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

over the loss of his friend. Blaming himself for what had happened. She saw Bandar's supervisor, Tovah, a grizzled old Polish Jew, with faded numbers tattooed inside his forearm, weep as if it had been his own son who had died.

She knew no right or wrong, no blame or consolation. All she knew was that her beloved was dead, and her heart had become a dry and empty sack. She knew nothing other than grief until the day when one of the holy men who kept telling her that her Bandar was a glorious martyr, laid his hand on her swelling belly and proclaimed that the child inside would grow up to be a great freedom fighter just like his father had been.

By the time night fell she had obtained, with Tovah's help, papers that allowed her to travel to Tel Aviv, and a job as a domestic for a friend of his who lived there. Eight years later she had saved enough money and gotten the papers she needed to take her daughter, Ben's mother, to America.

Her people, the Palestinians, had finally gained a homeland just as the millennium turned. Ben remembered the night the official announcement had been made. She had turned to him and said, *The Jews were not my people's enemies, nor were we really theirs. Our common enemy was hate. Our enemy was prejudice and fear. Our enemy was pride put before reason, and the blind madness of grievance.* Those wise old eyes had bored into his. *Know well who you would call an enemy, Ben. If a man smites you, think long and hard on what moves his hand before you raise your hand to smite him back.* She went to join her beloved Bandar just before the year was out, dying peacefully in her sleep.

Those words she said that night over thirty years ago rang in Ben's ears just as if she were there beside him. Reminding him. *If a man smites you—*

—think long and hard—

When he turned the picture of Simon Levanthal and family back over the whispered reminds were at last silenced, and she let him get on with his work.

Not only was it a productive day, late that afternoon Morty called with good news. Parthenon Publishers wanted him to "edit" another Ashcroft Holmwood novel.

Holmwood had started out as a model, and through the years had cashed in on his face and fame as an evangelist, rabble-rousing politician, and soap opera star. Ten years before he had written—and at the appalled publisher's request, Ben had "edited"—an incoherent, slanderous and salacious autobiography. It had been an immediate bestseller. Tall, craggy, silver-haired and handsome, Holmwood was a hit on the promotional circuit. Since then he had begun writing novels.

The problem was Holmwood was a cretin, who possessed the literary skills of a rather slow-witted six-year-old. His manuscripts were prepared with a voicewriter while under the influence of massive amounts of alcohol and drugs. They were little more than great sloppy helpings of improbable sex, graphic violence, rabid jingoism, and anti-space hysteria. Ben's job would be to turn somewhere around a thousand pages of plotless rantings, ravings, redundan-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cies, and just plain rotten English, into something salable.

He would also "defuse" it. Holmwood's three novels, all of them edited by Ben, had gained him a reputation as a brilliant satirist. Never one to question kudos, Holmwood modestly admitted that his personal growth as a writer had taken him in this direction.

The fee for the rewrite was almost embarrassing. Part of it was a purchase of continued silence. Part of it was a bonus from a publisher grateful that his house's top money-maker had been turned from an embarrassment into something of at least minimal social value.

Ben sat there a few minutes after talking to Morty, feeling better than he had felt in days. The job itself would be fairly nasty, not unlike cleaning out a sewer with his brain, but as of this contract he was getting paid as much as Holmwood himself.

The low buzzing tone warning him that someone had just opened the front door startled Ben out of his reverie. He glanced at his watch and saw that it was nearly dinnertime. Seconds later he heard Laura yell that she was home.

"Be right down!" Maybe they could go out to dinner to celebrate. It seemed like they had been doing a lot of that lately. Their lives were finally coming together.

"How was your day?" he called, grinning to himself as he closed his office door behind him. Wait until she asked him how his was!

"Great!" It sounded like she was in the kitchen. He started down the stairs. "Guess what, Ben! I got a job!"

The night was really shaping up to be a good one! "Hey! So did—"

Ben stalled mid-step and mid-sentence when he saw Laura appear below him, his mood going on down the stairs end over end and crashing into a heap at the bottom.

She wore a red jumpsuit. A glossy red half-helmet covered her close-cropped brown hair. Around her arm was a green armband. A long black nightstick hung from the web belt around her narrow waist. The image of a man in a similar coverall raising a nightstick just like hers over a cringing pregnant woman fireballed through his mind.

"Oh, jesus," he muttered, sitting down abruptly on the steps.

Laura stared back at him, her feet planted wide as if bracing for an onslaught. Her face wore that stubborn, determined, ready-to-fight look he knew so well.

"Earl told me you might not be happy about this."

Although Ben's mouth was suddenly as dry as a lunar sea he managed to say, "Did he?"

A tight nod. "He's explained the whole situation."

Starting yesterday, I bet. Ben sat there, hard stone stair under his butt, his heart a lump in his chest. He knew what was supposed to happen next. She was spoiling for a fight. It always began the same way; communication reduced to short thrusts, a testing of each others' guards before the duel began in earnest. He always played defense to her offence. Her thrust, his parry. A draw was usually enough of a victory for him.

But if he let himself be drawn into battle now, tonight, he wasn't so sure

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that would be enough. Too much had happened in the past few days, too many matters were unresolved for her to turn up like this in that red uniform acting like she had the only answers. Words like *stupid* and *gullible* and *simple-minded* were already scuttling across his tongue like scorpions, and there were always more words, worse words.

So he opted out. Maybe it was cowardice, maybe rationality. He made himself stand up and continue down the stairs.

"Congratulations on the job," he said, his voice sounding strange and detached, like a recording that would play back the same no matter if the button were gently pressed or smashed with a fist. He reached the bottom of the stairs. "Morty just called. I've got another Holmwood rewrite to do."

He watched his wife's face as she watched him, and saw that he had thrown her off balance. That brought a small, bitter satisfaction and a smile to match. "So what say we go out to dinner, live it up a little?"

What was written on her face? Confusion. Suspicion. Baffled anger. She'd had all her arguments lined up like a series of sharpened knives, and now he was refusing to play target.

When she finally looked away he knew that he had won a small victory. Some of the certainties Earl Broome had no doubt fed her didn't seem so solid now. Ben had no way of knowing what he had told her, but he could guess. That her husband was soft and weak—so much so that he'd had to bail the poor schmuck's pitiful ass out of trouble twice now. Maybe such a jellyfish that he was going to let himself be frightened into vacating. Or worse.

Laura would buy into that because she already believed him to be weak. God knows he'd let her bully him often enough.

"I can't," she said tonelessly. "Earl's going to show me around tonight. I'm a paid aide instead of a volunteer so I have to go."

Ben spread his hands. "Wouldn't want to disappoint Earl, would we?" he said lightly. "I guess we'll just have to do it some other night. Will you be out late?"

"Maybe. Why?" There was no missing the challenge and suspicion in her voice.

"Oh, I thought I might go out for a drink later. Have a beer or two at the Escape Hatch to celebrate this new contract." He grinned and rubbed his fingers together. "This one's the biggest payoff yet."

He could almost hear the gears grinding in her head. She wanted to tell him he shouldn't go, but was at a loss for a reason. He'd thrown her for a loop. Her letting the mention of money pass by proved it. Usually she counted their every credit at least twice.

She made a helpless gesture, part shrug, part surrender. "I've got to go."

Ben hugged her and gave her a peck on the cheek, both of which she accepted stiffly. "You have fun tonight. Don't worry about me."

She pulled away, and he watched her stalk toward the front door in her new red jumpsuit, black truncheon swinging from her hip. When she was almost to the door she reached down to steady her nightstick. She did it so easily and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

smoothly that it looked like something she had done a thousand times before. Hand and stick a part of each other. Made for each other.

One of the joys and curses of being a writer is the tendency to think in phrases. It's not a conscious thing, it's just the way the mind works. One dropped into Ben's mind, hard and cold as a block of frozen nitrogen, so chilling in its implications that it made him shiver and wrap his arms around himself for warmth.

My wife the storm trooper.

A couple hours later he was on his way to the Escape Hatch. Under normal circumstances the Holmwood contract would have been reason to celebrate, just like he'd told Laura he planned to do. But it wasn't celebration on his mind. It was finishing the interrupted conversation he had begun with Hatch two nights before. It was time he got to the bottom of a few things. Before the pile got any higher.

Just around the corner of the ring tunnel that led to the bar was a 5 x 10 alcove cut into the side of the tunnel. Every section of tunnel had one of these notions; put there like street corners or miniature parks to give children places to play and neighbors to gather and talk.

The airgrass floor, plantings of flowers and dwarf trees, and stone benches with tables gave it a parklike look. Three women and a man sat around one table, playing cards and passing a bottle. He gave them an abstracted nod as he strolled past, getting all of a dozen steps closer to his destination before he was snatched off his feet.

He gasped as his arms were pinned behind him. Before he could cry out, one of the women slapped her hand over his mouth and shoved her face into his.

"Make a sound and we break your arms," she warned in a harsh whisper. She was short and stocky, her pale face broad and slavic. Her cheeks and chin were cut and bruised, and the crown of her head was wrapped in a bandage. "Understand me?"

Ben tried to nod. She took her hand off his mouth, staring past him. "Go open door, Didi. We are right behind you."

Ben heard footsteps race away as he was hoisted off his feet and half-dragged, half-carried in the same direction. The woman who had ordered him to keep his mouth shut stayed next to him, scanning the tunnel in tight-lipped silence, on the lookout for anyone who might be inclined to interfere with his abduction.

Where's Earl now? Ben thought with a sort of crazed hilarity. The weird thing was, he wasn't really afraid. Yet, anyway. All he felt was a strange semi-amused fatalism. Every time he stuck his head out his cubby door something happened. Why should tonight be any different?

He caught a brief glimpse of the legend UTILITY STATION—AUTHORIZED PERSONNEL ONLY on the door they carried him through, then it closed behind him. The sound of machinery filled the air, the whine of pumps, the throbbing hum of blowers. The rough stone walls were covered with color coded pipes and valves, bundles of fiber-op cable, and electrical trunks and junctions. He was carried past a glassed-in control station, and through

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a wide foamstone door at the far end. It closed behind him. The level of sound dropped to the low subterranean thrum of the down's heartbeat.

"Put him down, Sam, but keep good hold on him," ordered the woman who seemed to be in charge. He was dumped onto his feet, landing off balance, but the hands gripping his arms behind him kept him from falling.

Ben heard the telltale click of the door being locked. He looked around, seeing stacks of crates and rolls of cable. Drums. Bins of parts. Racks of tools.

The woman with the bandage on her head sat down on a plastic crate in front of him, eyeing him with disapproval. The two other women placed themselves at either side of him. One look at their faces and Ben knew they wouldn't mind one bit if he put up a struggle. He waited quietly for whatever happened next.

"Your name is Ben Kuhn." The woman on the crate said, making it sound like an indictment.

Ben ducked his head. "It is. Can I ask you yours?"

Her arctic blue eyes narrowed. "Why?"

He tried to smile. "So that we can maybe talk like civilized people before you beat the shit out of me."

She deliberated for what seemed like an hour before speaking. "My name is Irena. The woman at your right is Didi, on left Virginia. Behind you is Sam. Now you know us. But before you speak, Ben Kuhn, be warned that we know you."

All right, Ben told himself, You've gotten yourself onto the tightrope. Now let's see if you can stay on it.

"I assume from the bandage on your head you were in that riot or whatever the hell it was the day before yesterday."

"I was. Your crimes there are reason you are here."

"My *crimes?*" That word had an ugly edge to it he didn't like one bit. "But I didn't do anything wrong," he replied as calmly as he could.

"You do not think it wrong to attack a pregnant woman?" she asked coldly. When Ben opened his mouth to protest she held up her hand. "Do not tell me you did not do this. I was there. I saw you. I also saw many redders rush in to save you, breaking many heads in process." She touched her bandage. "One head was mine."

Ben wondered why it was that everybody seemed to be certain he was on the other side. Jimmy Hatch, Earl Broome, his wife, and now these people. He could see why they were angry, but dammit, he hadn't done anything wrong!

"I was trying to protect that woman." He said it as forcefully as he dared, staring unflinchingly back at his accuser.

"I do not believe you. You have been *buddies*," the word dripped with scorn, "with Earl Broome. You have taken Simon Levanthal's cubby. Because of you he is beaten and arrested. Redders made much effort to save you, and your wife has joined them as Broome's aide. Your actions condemn you."

"This is all one big messy misunderstanding." Ben swallowed hard as the mental picture of a doomed innocent with greasy coveralls and a bomb in his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hands flashed through his mind. "I was sitting in the Escape Hatch drinking a beer when Mr. Levanthal attacked me. Broome and his friends intervened. Later I found out why he attacked me. That was how I got caught up in that riot. I had gone to the Maze to see if I could get the charges against him dropped."

Irena's gaze remained cold and unforgiving, her face hard as carved ivory. "That is good story, but then you tell stories for living."

"It's true," Ben insisted. "I was turned away at the Maze. I talked to a trooper named Sgt. Jo Xiaoxin. Ask her."

That got him a thin, not particularly reassuring smile. "I am afraid we do not have what you call good open lines of communication with troopers. 'You are under arrest,' is what they mostly say to us." She pulled a pencil from her pocket and began toying with it. "We are not being convinced."

"OK, how about the man who was with that woman yesterday. I think she called him Papa. He should be able to tell you what happened. See, he got hit by a, uh, redder. The girl tried to protect him from getting hit again. I thought the guy with the nightstick was going to hit her and tried to stop it. Then when things went crazy I tried to keep her from getting trampled."

Irena shook her head. "Carlos is under arrest." She tapped the pencil against the palm of her hand, that soft *slap slap slap* rubbing against Ben's already raw nerves. He knew it was the sound of her running out of patience.

"Then the girl herself," he put in quickly. "I mean, everything was real confusing, but if you brought her here and asked her what happened I'm sure she'd tell you."

"Luz has had enough to do with you," Irena replied through tightly clenched teeth, her frozen and frosty exterior cracking and giving Ben a sudden, terrifying glimpse into the molten rage she was keeping in check. "She may well lose her baby as is. I will put her at no risk for likes of you."

"Oh god, no," Ben groaned, at last understanding the enormity of the crime they were condemning him for, and how high the penalty might be set.

"*Now* you are sorry," Irena sneered as the grip on his arms tightened, pulling him up onto his toes. A hundred conflicting impulses and emotions boiled inside him, he wanted to beg, to scream, to fight back, to do something, *anything*—

But his marriage to Laura had given him reserves of self-control deep enough to force down the temptation to bolt and rack his brain for some proof of his innocence.

Irena snapped the pencil in half, the crack of breaking plastic as loud as the bang of a gavel. "It is time that you are punished for what you have done." She stood up, jaw set.

Ben stared at her hands, at the broken pencil, the image echoing in his mind, reminding him of something. . . .

She dropped the pieces. They fell so slowly, they still had not hit the ground as she turned away. Two steps took her to a tool rack. She took down a hammer and hefted it experimentally.

"What're we gonna do to him?" asked the man behind him, sounding very scared and nervous. Ben knew how

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he felt. His thoughts tumbled like a kaleidoscope turned at a thousand rpm.

Irena turned back to face Ben. She wore a look of tight-jawed determination, and her knuckles were white on the handle of the hammer. Ben tore his gaze away from her face and the hammer, concentrating on the broken pencil on the floor, frantically ransacking his memory. *Broken. Falling.*

"Teach him the cost of raising a hand against one who cannot defend self." She stood beside the crate. "Bring him here."

Ben put up no resistance as they pushed him forward and onto his knees before the crate.

"Spread his right hand out." The woman on that side wrenched his arm around and pushed his hand onto the crate palm down. Her face was rigid with fear and determination. The man behind him kept his left hand jammed up against his shoulder blades.

"There has to be some justice," Irena said quietly. "Sometimes is hard road, but must be climbed."

It's always rocky road. Mack had said that, just before they went down the ramp to the tramstation.

Just after—(*pieces*)

Irena took a deep breath, preparing herself. No anger, no pleasure.

—he had seen— (*falling*)

She raised the hammer up, gripping it with both hands. The hands clamped around his wrist tightened in anticipation.

(pieces) (falling) (snapped in half) (pieces falling)

"*Mona Lincoln!*" He blurted the name out, staring beseechingly up at the woman with the hammer and seeing the slightest flicker of doubt twitch across her face. The hammer remained poised but did not fall. Judgment withheld for the moment.

"She was there," Ben went on with desperate haste. "I saw her. She carried away the woman you think I hurt. Maybe she saw what happened. Maybe the girl told her what happened."

"I did see her there, Irena," said the man behind him.

The woman holding his hand down nodded. "So'd I, and it was Mona got Luz out of there."

"I'm not trying to trick you," Ben told Irena, amazed at how calm he sounded. He couldn't for the life of him explain why, but somehow he trusted this woman and the others to do the right thing. "Find her. Ask her. Tie me up if you want. I won't cause any trouble. But please, before you do this, give me a chance to prove I didn't do what you think I did."

Irena's eyes raked his face, searching for the slightest stain of deception, then flicked toward the woman holding his other arm. "Find Mona," she said curtly. "Ask her. Bring her here if she'll come."

The woman let go of his bicep. Irena lowered her hammer. He heard the door open and close.

"Thank you," Ben said, his voice hoarse with relief.

"If he tries anything break his arm," was all she said in reply.

An eternal five minutes had passed since Irena had sent the woman named Didi off to find Mona, and the combination of silence and suspense was driving Ben crazy. He decided to risk trying to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

talk to his abductors.

"How long have you lived in Ambrosia?" he asked Irena. The question sounded idiotic, but was probably safer than asking if kidnapping was just a hobby. Besides, he wanted to know what had driven them to such a desperate act.

"Since very first." She glanced at her confederates. "We all have. Sam and Virginia are airlock techs. Didi is commtech. I am mechanic."

Ben nodded toward the silver ring on her stubby finger. "You're married?"

Her answer was a grim nod.

"Her husband's in the bucket," explained the woman at his side. "MOON's punched his ticket. Y'know, squareonned him. They clipped my lover Alice, and Sam's wife too. All squareonned." She laughed, but it was the sound of someone laughing so that they didn't cry. "Us twofers are easy targets. Trip one, get two."

Ben wasn't entirely sure what he had just been told, except that it didn't sound good. Before he could ask Irena for a translation she cocked her head as if listening, then gave Ben a long, significant look. "Didi is back, and has Mona with her."

Ben swallowed hard. *I'm sure she'll clear me*, he told himself hopefully. She has to. After all, I'm innocent.

Not that long ago he would have believed that innocence was enough. But lately he'd begun to get the feeling that to be innocent was to have a bull's-eye painted on your back and a set of crosshairs lined up on it every time you stepped out your door.

Ben resisted the impulse to fling himself to his knees and kiss the tunnel floor when the utility area door closed behind him. But he did let out a long, heartfelt, shaky sigh of relief.

Mona grinned down at him. "Honey, you got the look of somebody in bad need of a beer."

Ben tipped his head to stare up at her. He'd forgotten just how big she was. When she'd lumbered in he'd taken one look and been convinced that the only reason she'd come was to squash him like a bug. Instead she'd backed up everything he had said, and even gone so far as to tell Irena and the others that the only reason Luz was still alive and might just be able to keep her baby was because Ben kept her from getting any worse than she had.

"I don't know, Mona," he began. All he wanted to do was go home, lock the door, and try to forget this evening had ever happened. If he stayed out god only knew what might happen next.

"Well I do, and it ain't smart to argue with an expert," she told him, hooking his arm with one the size of his thigh. She headed toward the Escape Hatch, dragging him along in her wake as easily as a tugboat would tow a rubber duck. "A good beer never hurt nobody." Her wide dark face knitted into a thoughtful frown. "Though they is times I've wondered if beer mighta stunted my growth a bit."

Ben stared up at her blankly, taking several seconds to realize that she was joking. When he did, he completely lost it. Shrill, hysterical helpless laughter ripped through and out of him, so wildly violent that it had him doubled over and unable to stop or even breathe.

"S-sorry," he gasped when he fi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

nally regained control of himself. He clutched his aching belly as he straightened back up and wiped the tears from his eyes. "I don't u-usually act like an idiot."

"You mean you were acting?" She put her arm around his shoulder. "Don't worry, you earnt the right to blow off a little steam. You didn't pop your cork when the pressure was on, and used your head for more'n a hat rack." Her smile faded and her gaze grew distant. "This place seems like Hat Rack City lately."

Something about the look that passed over her face made Ben wonder just what unsuspected depths and undercurrents were hidden behind that clownish exterior. She played the fool, but he was beginning to understand that she was anything but.

So what was she? Irena and the others treated her with deference, and yet she didn't seem to be one of them. He'd seen her go head to head with a redder and get away with it.

They had reached the entrance to the Escape Hatch. "Sure glad I'm dressed to go out," Mona said happily. Ben eyed her doubtfully. She wore a green suede camisole, pink poodle skirt and yellow fishnet stockings, along with a good pound of junk jewelry and electric blue sneakers.

Then he smiled. "You know that beer you talked about?"

"What about it?" They went inside and headed toward the far end of the bar.

"I'm buying."

Mona let out a guffaw loud enough to rattle the glasses on the nearby tables. She looped an arm around him as if to keep him from getting away. "Brother, if you knew what you was saying you'd bite'cher tongue off. But you're on!"

Ben tore his gaze away from Mona and gave Jimmy Hatch a look of wide-eyed awe. Hatch smirked knowingly.

Mare Humorum came in liter bottles. Jimmy had one all set for Mona when she parked her bulk on the end stool. She swept it up in one huge hand, flipped off the safetab with an expert flick of her thumb, aimed the nozzle at the back of her throat, and began emptying the bottle. And kept emptying it. She didn't even seem to swallow. It was like she was squirting it down a drain. Finally she put the empty bottle down and smacked her lips.

"Ready for another, Mona?" Jimmy asked solicitously.

"This one's empty, ain't it?" She regarded Ben with one raised eyebrow. "Something wrong, sugar?"

Ben shook his head.

"Then close your mouth 'less you're gonna either talk or drink." She tossed her head and belched delicately. "Some men just don't know how to act around a lady."

Some lady! Ben thought, hiding a grin by taking a more moderate shot out of his own smaller bottle. Jimmy set up another liter for Mona. This time she only drank off half of it in one swallow.

"So," she said when she put that bottle back down, "What do you think of Ambrosia?"

"I don't know what to think," he admitted. "It's like I ended up in some goddamned fun house—and to tell you the truth I haven't been having all that much fun."

"You haven't?" Mona sounded sur-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

prised.

"Are you kidding? My first night here I got punched in the face in this very bar. Since then I've been terrorized, vandalized, nearly killed in a riot, and kidnapped by vigilantes."

"Is that all?" Mona glanced at Jimmy. "Guy sure don't know how to 'preciate an active social life."

"No, that's not all," Ben said tersely, not seeing anything the slightest bit funny. "I've also had a lawsuit laid on me, been courted by ACSPAN, had my wife turn up early and join them. What else?" He glared at Jimmy. "Oh yeah, I also had a big sack of guilt laid on me by a certain bar owner."

"I just thought you ought to know." There wasn't the slightest trace of apology in Jimmy's voice or on his face.

Ben slumped down, elbows on the bar. "You were right, I guess." He eyed Mona. "You know what I'm talking about, don't you?"

"I b'lieve I do."

"That's one of the things that's driving me nuts," he told them, unable to keep an aggrieved note out of his voice. "Everybody seems to know what's going on around here. Everybody but me."

"Maybe they do, maybe they don't." She shrugged. "Maybe they've just settled for simple answers. Most folks'll take an easy answer over a hard question any day."

"That's another thing," Ben said bitterly. "Everybody keeps giving me all these hints and coded messages." He made a face. "I hear one more plugging riddle and I'm going to puke."

"It's a delicate situation here," Jimmy said quietly.

"Delicate my ass, it's a frigging madhouse!" He glared at them. "You tell me it isn't! I got caught in a fucking *riot* the day before yesterday! Not an hour ago I almost had my hands smashed to a pulp with a goddamn hammer!" He couldn't keep himself from yelling. He was sick of the whole mess.

Mona didn't look impressed. "There ain't one thing happening here that don't have some reason behind it." Jimmy nodded in agreement before moving down the bar to serve his other customers. That was all right with Ben. Right now he wanted to have it out with Mona.

"Then what the hell are they? Why don't you drop your big dumb good old gal act and come right out and tell me?" He clutched his bottle tighter, trying to keep a hold on his frustration. "Hell, why don't you come right out and give me *your* pitch while you're at it."

"What pitch is that?" she asked idly.

"Come on, don't you bullshit me too," he snapped, getting madder by the second. A small forebrain voice whispered that pissing her off might not be such a good idea, but at that moment he didn't really give a damn.

"You didn't meet me by accident when I arrived here. *It could be you*, right?" He banged the bar with his fist. "So come on, what're you offering? A dental plan, maybe? I get hit in the face many more times, I'm going to need one." He took a long knock off his beer. Getting drunk suddenly sounded like a very good idea. When Jimmy came back he was going to get himself one of those liters.

Mona just sat there looking at him, a thoughtful, enigmatic expression on her

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

broad face. His anger might as well have been rose petals—or thorns — thrown against an iron wall for all the effect it seemed to have had.

"You play chess?" she said at last.

Ben only stared at her. Now what the hell was she talking about?

She waved her hand in front of his face. "Hello? Anyone home? Are you deef? I ast if you play chess."

"Uh, I have," he muttered. "Sure. Not very well, though."

"You wanna know what's goin on? Here's one way of looking at it. You were brought here as a pawn. Lots of pawns in this game. Thousands of them. You were used to help take another piece off the board your first night here."

He saw what she was getting at. "Simon Levanthal."

Hatch reappeared with another round. Ben nodded a distracted thanks, his attention focused on Mona.

"Very good. That was supposed to turn you into an offensive piece, but it didn't work." She kept her gaze locked with his. Ben was distantly aware that her English had radically improved. There was something new in her face and eyes, something daunting and magnetic, something that commanded his full attention.

"I didn't . . . go running to join ACSPAN."

"So you were threatened again and offered a way out."

"The lawsuit. The little present on my doorstep."

"Threatened one more time and saved again."

"The riot." Seen as chess moves, many things were becoming chillingly clear. "Earl Broome and ACSPAN saved me, and that was supposed to put me on their side once and for all."

Jimmy listened to this exchange quietly, his long face solemn and thoughtful, like a spectator at a chess match. Mona smiled faintly. "But once again you refused to become an offensive piece. So you were blocked and pressured on one side."

"Earl recruited my wife."

"And it became time for a fairly heavy gambit. One that might finally turn you, or take you out of the game altogether. Either way it would take out several opposing pieces at once, and also set up your backing pawn to do one hell of a lot of damage. That gambit was a . . ." She let it hang there.

Ben's blood suddenly felt colder than the bottle in his hand, and his mouth so dry that his beer might as well be dust for all it could do to help.

"I was set up," He licked his lips. "As a *sacrifice*." Mona was suggesting that Irena and her friends had not found him by accident. If they *had* only —only!—smashed his hands it probably would have turned him into a rabid ACSPANner. Irena and her friends would have been charged with kidnapping and assault. If he had put up a fight and they had killed him, the backlash would have been incredible. He would have been a martyr to ACSPAN's cause and Laura would have become an implacable fanatic.

—*He was a glorious martyr to the cause, they said,* his grandmother's voice whispered. A dead innocent. One of a million million misunderstandings.

He swallowed hard. "The only thing that spoiled the gambit was them treat-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing me fairly. That and the intervention of the Black Queen." More than the chess metaphor suggested that description. What better disguise for a queen than a fool?

Mona tipped her head in modest acknowledgement of his backhanded compliment. "That and you bein' a piss poor pawn from square one."

"OK, I see what you're getting at." He sighed. "So what's next? What do you want me to do?"

Mona shrugged. "What'm I, yo mama? Do what looks right."

Ben scowled. "What the hell do you mean by that?"

"Read my lips, sugar. You wanna be a pawn, fine. Maybe you *like* being moved around." She leaned toward him, her rubbery face going from indifference to intensity in an instant. "But you might have it in you to be a different kinda piece if you got up off your ass. Jimmy here's a castle. You could be a bishop, maybe. But first you've gotta choose a side. Don't forget you came damn close to having one chosen for you tonight."

"But I'm not even sure who's right and who's wrong! I mean everybody here is acting crazy!"

Mona stood up, towering over him. "You proved you got a brain tonight. Use it for somethin 'sides a spacer 'tween your ears. Just remember, nothing happens without a reason—'cept for maybe me not always having a hot date every Saturday night."

"But—"

"No buts." She beamed at him. "Thanks for dampenin' my whistle, sugar. Good thing for you I ain't particular thirsty tonight." She gave Jimmy a mock salute, receiving an ironic bow in return, then headed toward the front door, moving with the vast grace of a tall ship under full sail, her pink skirt billowing around the yellow fishnetted masts of her legs.

Ben turned back toward Jimmy after watching her sweep out the door. "Who the hell *is* she?"

Hatch spread his hands. "Beats me. She turned up here a couple months ago, about the time things started turning ugly. Ask her what she does or where she comes from, she changes the subject so slick it ain't until later you realize you didn't get an answer."

Ben had found that out the first time he met her. "She's got some sort of weird angle on all this," he mused. "I mean, I think I can see the sides now. On one hand you've got the people who were here first and built this place. On the other, are the people who've come here afterward. Right?"

"That's about the size of it."

"I think she's leaning toward the ones who seem to be causing all the trouble, but doesn't really seem to be one of them. She's got her own agenda, and there's one hell of a lot more to both her and it than she lets on."

Jimmy nodded wisely. "That's the way I read the situation. But I'll tell you something, Ben. I trust her. Have from the first night she walked in here." He cracked the tab on the beer he'd brought for himself.

"So do I," Ben admitted, "And not just because she saved my butt tonight. I have a feeling she knows exactly what's going on here, all the machinery behind the curtain. I thought maybe she'd tell me."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

After a meditative squirt of beer, Jimmy put his bottle down. "You're a writer, aren't you?"

"Yeah, so?"

He spread his hands. "So do some research. Find out for yourself."

Ben stared at the bar owner with the surprised expression of someone who finds himself flat on his face after tripping over the obvious. Then he chuckled and slid off the stool. "I guess I better call it a night, innkeeper."

Jimmy looked amused. "Had enough, huh?"

"I think I've got my work cut out for me tomorrow." He reached into his pocket for some credit chips. "What do I owe you?"

Jimmy shook his head. "On the house." He gathered up the bottles. "Now you have a good day tomorrow."

"Thanks. I sure plan to try." He headed toward the door, his mind already turning toward the whats, wheres and hows of his research, so absorbed that he collided head-on with another customer. He caught his balance and started to apologize.

Ben found himself face to face with Earl Broome, and very nearly laughed aloud at the look of bug-eyed surprise on the big man's face.

"Evening, Earl," he said with a grin. "Are you OK? You look like you just saw a ghost."

Broome managed to get his eyes back in his head and produced a queasy smile. "Naw, you just startled me, old buddy. I thought you were . . . home. I just left your wife there."

"You're just too damn helpful, Earl." Ben couldn't stop grinning—not that he wanted to. "That reminds me, I never thanked you for giving her a job. That was real nice of you. She'll be one helluva asset to ACSPAN." He let his voice drop to a lower, conspirational tone. "Just one thing to keep in mind about her, old buddy."

"What's that?" Broome asked warily.

"She can get a bit, well, testy sometimes. The thing is, she doesn't like being manipulated. If she ever finds out that you're playing with her head she'll rip your balls off and stuff them down your throat."

Broome's eyes narrowed. "Is that a threat, buddy boy?"

Ben chuckled. "Now why would I want to threaten you, Earl? What have you ever done to me?" He winked, then walked away without looking back.

Standing up to Earl had been a small but important victory. For the first time since arriving at Ambrosia he sensed that he had a chance to feel like something other than a cork on a flood tide, swept helplessly along with no control over what happened to him. It felt good.

Damn good.

While it lasted.

Laura didn't stir or speak when Ben slid into bed beside her, but he knew she was awake. She never let herself fall asleep until she knew exactly where he was. He wondered if Earl had given her a reason to think that he might not be home.

Ben waited her out. They lay there side by side for several minutes before Laura finally broke the silence.

"I know about the notice to vacate."

Somehow he wasn't surprised. "Earl

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

told you," he said quietly. The ever present, ever helpful Earl.

"Earl has explained a lot of things to me."

I just bet he has. There was the faint rustle of bedclothes as she shifted around slightly. Bracing herself for an argument, no doubt. When she spoke again he could hear both demand and appeal in her voice.

"We've got a chance to really make something for ourselves here. We've worked damn hard to get here."

Ben didn't know how to answer that. It was all true: In the end, all he could say was. "I know, love."

"I'm not giving this place up. It's mine and I'll fight to keep it. I won't let anyone take it away from me."

She took a deep breath. Ben closed his eyes but he could still see it coming. All he could do was wait.

"Not even you."

Those three words cut—and cut deep. Through his skin to draw blood from his very heart. He had known it might come to this sooner or later, the battle line had been there all along, and yet having it drawn made all the difference in the world. It was an acknowledgement of the thin line between love and hate, between marriage and divorce.

Words were his life and his living, but at that moment he couldn't think of even one which would fit in that narrow dark moment. To tell her that it was not as simple as that might as well be a slap in the face. He could not bring himself to surrender, and yet he knew that this was one of those times when silence could become a wall along the border and every moment that ticked by only added another stone.

In the end all he could do was reach over and take her hand, linking her slack and unresisting fingers with his own. Words did come to him then.

"I love you," he whispered. She went rigid and tried to pull her hand away. But he held on tight, a silent promise that he would not let her go so easily.

A faint tremor in the bed told him that she was crying. He held her hand, thinking about the two powerful poles she was caught between and knowing how they were tearing her apart. On one side was her love for him. A love tinged with a fear and desperation that all too often drove her to cruelty, rabid possessiveness, and a drive to control him. Although those facets of her love all too often made her almost unlovable, they were a gauge of its depth and power, its often misdirected passion.

On the other side was the unwavering determination that had gotten them from Earth to Ambrosia. She had pursued that one goal so long and so relentlessly, and now that she had it in her hands, giving it up was inconceivable. Cutting off her hands would be easier. Less painful.

When she rolled toward him and clung to him so tightly it actually hurt, he endured it, stroking her hair and back, trying to wipe away the tension that turned her embrace into the crushing grip of a vice.

The most frightening thing of all was knowing she could only throw that ultimatum at him because she trusted him to not make her carry through on her threat. Because he had never let her down, always giving in when push

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

came to shove. Taking the easy way out. Somehow taking the path of least resistance had become a habit, and then a way of life for him.

Just like he had chosen the anesthetic of money over the pain of personal expression in his writing. Why stop now? He could lock himself away and bury himself in his work, letting whatever was happening outside his door sort itself out without him. He could keep his marriage intact. It was all one and the same thing.

When she began to move against him with a sudden breathless urgency he responded in kind, but a detached part of his mind wondered if this was just her argument of last resort.

Later on, she slept beside him with one arm hooked possessively with his. He laid there feeling drained and hopeless, his thoughts stumbling blindly through the dark in search of some sort of guiding light.

When he got up the next morning, Laura was already gone. This time there was no note. Well, he wouldn't have known what to say either.

But she had left him a message of sorts. She'd moved the rosebush he bought her to the dining table where he would see it first thing, a reminder of his promise that they were finally going to put down some roots.

The problem with putting those roots down was that he would have to tear out those put down by another. Simon Levanthal and his family might not live here any more, but not fifteen meters away his commitment to this place still thrived in green leaves and red buds.

He wandered restlessly around the cubby, drinking Kafi and thinking. Everywhere he looked were reminders that this whole place had been shaped by that man's hand for his family and his future. Ben had been here for almost a week now, but he couldn't really say that it felt like home. If all his and Laura's few possessions were put back in a box, there would be no mark any deeper or more permanent than a fingerprint to show they had ever been there.

He tried to summon up even a shadow of the fierce possessiveness Laura felt, but could not. All he could think of was all the love and sweat Simon Levanthal and his family had invested, and how traumatic it must have been to lose it.

How had he lost it? Why? What had he done wrong?

He gazed up toward the door to his office. Once he went inside he would be faced with two choices. Do his usual work: pretend, forget, ignore. Who was Simon Levanthal to him anyway? Things hadn't worked out for him, that was all. Or for the others like him. Was that his problem?

His bubble of rationalization burst when four very pointed words chose that moment to prick his conscience.

It could be you. Other words followed after. *There's a war going on here. If you're not a part of the solution you're a part of the problem. If a man smites you—*

It wasn't Simon Levanthal who came to mind, but Earl Broome. *—Think long and hard what moves his hand—*

An hour later found him hunched over his compad, mouth set in a grim line. The picture of his grandmother

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

watched over him, and had he looked up he might have thought he saw approval graven in the lines of her face.

"Escape Hatch, Jimmy speaking." By long unspoken tradition bar comms were sound only. Matters of a customer's presense or sobriety are more easily circumvented when visual cues, or worse, are eliminated.

"Jimmy, this is Ben Kuhn. I was wondering if you could do me a favor."

"Like what?"

"Well, I'd like to meet Mona Lincoln at your place, but I can't seem to find her commcode."

"She's not linked. You want me to contact her?"

"If you would. I'd also like to have a mechanic named Irena there at the same time. Short, chunky blonde woman, maybe in her mid-thirties. I think her husband is in the Maze."

"I know who you mean. Hang on a minute." There was a soft click, then music. Ben drummed his fingers on the pile of printout he'd amassed. The music was very old sounding, probably from the last century, and had a crude, frantic edge. Ben didn't really pay much attention to it until one recurring line lodged in his brain. *We won't get fooled again*. Political muzak?

The music cut off. "Still there, Ben?"

"Sure am."

"Be here in half an hour."

"That's great, Jimmy. Thanks."

"No problem. Did you find out what you were looking for?"

"I'm not sure. I've got a lot of information. Now what I need to do is find out if it means what I think it does, and then get some perspective on it."

Jimmy chuckled. "You're in luck. That's today's special."

Ben gathered up his notes and headed straight for the bar. Halfway there he crossed paths with Mack Powers. The man wasn't dressed in his ACSPAN uniform this time. Although he had obviously seen and recognized Ben, he turned his head, tucked his bearded chin into his chest, and kept walking.

Ben chased after him and grabbed him by the elbow. "Hey, Mack. How are you doing?"

"Fine," he said, forcing the word past pinched lips. He stood there stiffly, shoulders hunched and eyes on the tunnel floor. "Got to go. In a hurry."

Ben kept a restraining hand on his arm. "I won't keep you. I just wanted to thank you again for helping me out the other day."

Mack shook his head. "S'OK," he muttered almost inaudibly. "Forget it."

"No way," Ben insisted. "I was in bad shape. I wouldn't have made it home without your help. I owe you one."

Powers flinched as if he had been slapped. "You don't owe me one damn thing," he snarled, pulling away. "Just leave me the hell alone!" He jammed his hands in his pockets and stalked off.

Ben watched until he was out of sight, his dark eyes hooded and thoughtful. Pixel by pixel, the picture was growing clearer.

When Ben entered the Escape Hatch Jimmy spotted him and motioned him to the near end of the bar. He led him back behind it, through a door marked

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

EMPLOYEES ONLY, and into a small service area with a door on each side. "In here," he said, leading Ben through the one on the right.

Ben looked around. He was in a long narrow room that ran parallel with the bar. It was obviously Jimmy's office. There was a desk and terminal, order sheets and ledgers. His attention was immediately drawn to a wide expanse of glass above the desk.

"Hot damn! This is great!" he exclaimed when he found himself looking out though the mirror behind the bar. He watched Jimmy's niece Chloe move among the unoccupied tables, her long red ponytail swinging like a pendulum as she wiped them clean. From here he could see almost the whole interior of the barroom.

"Not more than a dozen people know about my little spyglass here," Jimmy said behind him. "I'd kinda like to keep it that way."

Ben faced him, putting his hand over his heart. "Your secret is safe with me."

Jimmy stared out the window, watching Chloe with a gloomy expression on his face. "Isn't much of anything safe anymore." He sighed. "You want a beer?"

"Sure."

Jimmy pointed at the table in the middle of the room, a half dozen mismatched chairs around it. "Siddown, I'll get one."

Ben parked himself in a sling chair that gave him a view of the bar as Jimmy retrieved two Mare Humorums from a small cooler built into one of the side walls. He gave one to Ben then dropped into the chair next to him.

Ben raised his bottle. "Thanks."

Jimmy didn't seem to have heard him. He moodily contemplated the bottle in his hand for almost a minute, then abruptly knocked back half of it all at once. When he spoke his voice was as flat as the tabletop. "I shouldn't worry about that damned one-way. Isn't going to be long before it doesn't matter anyway." He put the bottle down. "I'm about to call it quits here."

Ben was caught off guard. "Why?"

"Lots of reasons. The place is changing more than I want to and in ways I don't want to go. This was always a workers' bar, more friendly than fancy. Pretzels, local beer, and hootch. The new folks want something fancier. Imported beer, wine, and booze. Tablecloths, uniforms, crap like that. My old customers—the ones not in the Maze or already gone on—either can't afford to come in anymore, or are just too damn scared to stick their heads up unless they have to. I'm sick of seeing my friends getting threatened, beat up and arrested, and not daring to open my mouth to say anything about it."

Ben watched him look out into the bar again, his voice dropping to little more than a whisper. "I'm sick of worrying about Chloe. Wondering if there's really anything I can do when that bastard decides to make his move."

"What bastard is that?" Ben asked, fairly sure he already knew the answer.

"Earl Broome, of course. He's been getting real cocky lately. Beginning to think he can get away with anything he wants. He's made it clear he wants her, whether she wants him or not."

Ben added that to what he already knew and thought he knew about

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Broome. It fit. But before he could tell Jimmy any of his suspicions, the office door opened. He turned to look, surprised to see Mona Lincoln duck through the doorway. She came on in like she owned the place, leaving Irena waiting on the threshold.

"How did you—" he began, looking from the two women to the window and back again. Today Mona was decked out in what appeared to be orange velvet bib overalls, a silver lame jacket complete with red corsage, and gray lizard-skin cowboy boots. He'd have to have been blind to not see her pass through the bar.

Mona guffawed. "Jus' call me the Chocolate Pimpernel." She hauled out a web chair across from Ben and sat down. The chair creaked in protest, but held. Irena still hovered by the doorway, shifting nervously from foot to foot.

"Come on in, sit down," Jimmy called as he went for more beer. Mona, of course, got one of her liters.

Ben watched Irena shuffle in and sit down beside Mona, studiously avoiding his gaze all the while. She accepted the beer Jimmy gave her with a mumbled thank you, not even raising her downcast eyes.

He reached across the table and covered her hands with one of his own. She stiffened. "Irena, look at me," he said quietly.

When she looked up at him he smiled. "No hard feelings."

"But I almost—" she shook her head, unable to say the rest.

"But you didn't." He patted her hand and sat back. "You got an anonymous call telling you I would be coming here last night, didn't you?"

Her pale brow furrowed. "Yes. Caller said man who put Simon in Maze and nearly kill Luz was going to Hatch. Even described you. Said he was a friend, but did not recognize voice."

"You were set up, and so was I. Only my wife knew I was coming here, and whoever she told called you. Or had someone call for him." He gave her a wink. "You trashed his plans, Irena. By putting your sense of fairness ahead of your anger. I owe you for that. So can we start with a clean slate?"

The hesitant smile that appeared on her face told him that they could, even before she said yes. He noticed the way Mona was looking at him.

"What are you grinning at?" he demanded.

"Am I grinnin'?" She shook her head, showing off an even wider expanse of gleaming white teeth. "Seems like I'm always the last to know." Her chair creaked as she leaned back. "Whyn't you pretend I'm bored outta my skull and go on with your meetin. I'm sure my face'll catch up soon enough."

"I'm sure it will," he answered tartly. He paused a moment, trying to decide where to start.

"OK, I spent all day today running down information. I used every trick I know and every in I have. I do a lot of research in my line of work, and have access to some really hot AI search progs, loose affiliation with a couple newswebs, and subscribe to one of the best Infobanks around. I was able to cover a lot of ground very fast. One of the first and most interesting things I learned is that there is no civil disorder

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

here or anywhere else on the Moon."

Irena touched the bandage on her head as if checking to see if it was really there. Jimmy scowled. "What do you mean, no civil disorder?"

"I mean as far as Earth is concerned, everything's all sweetness and light here. MOON has managed to keep a lid on anything that might discourage emigration or investment. The only news coming out of MOON is good news. Would you like to hear some?"

Both Jimmy and Irena gave attentive nods. Mona only showed him a smile stolen from the painting of another Mona.

"The general understanding on Earth is that lunar settlement is proceeding nicely. How nicely? Six years ago MOON projected that there would be seven completed downs and two more under construction by this year."

"Wait a minute," Jimmy put in. "There are eleven completed downs, right?"

Ben nodded. "And *five* more under construction. The next thing you might find interesting is that their original projection of the period between the end of construction and passing the fiscal break-even point on any down was four years. Ambrosia was completed less than a year ago. Anyone want to guess when it will hit the break-even point?"

Irena shrugged. "In two years?" Jimmy only shook his head. One look and Ben knew there was no point in asking Mona.

"In less than six months from now. The thing that you have to keep in mind is that MOON is a corporation, chartered by the UN for the express purpose of lunar settlement. It's a country and corporate consortium all in one. Stock is issued for financial or resource investment, but you have to be the size of a Nipponica, or General Motors & Mills, or Trevor Higgins to invest. People and companies in his league get a combination report and prospectus. That's where these figures came from. They aren't available to the general public." If it hadn't been for Higgins's executive secretary, he would never have gotten them.

He looked around to make sure they were with him so far. He knew he was taking a circuitous route, but every piece of the puzzle had to be put down before the whole picture became clear.

"Now here are some figures from Misty Down, over by Mare Vaporum. Three years ago, during final construction, the median income of all inhabitants averaged out to 26 *KISC*—that's twenty-six thousand International Standard Credits. Within the first six months it was opened to settlement that figure more than doubled. By the time the year was out it was up to over 130 KISC—and the down was just five months shy of breaking even. What does that tell you?"

"That just about all other peoples make more than I do," Irena said with a nervous laugh.

Mona remained silent as a sphinx, that maddening half smile still on her face. Jimmy cleared his throat.

"One factor in lease cost is the occupant's income," he said slowly. "You make 20, you pay at least 12, take it or leave it." He rubbed his chin. "You got space you're getting 12 for, you can double your money by forcing out the family making 20 and putting in one

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

making 40. Go from 26 to 130 and you're raking in 6 times as much off the same space. Do that a few times and you're talking serious money."

"You got it. Now who makes the least?"

"Who else?" Irena snapped. "We who built the down in first place."

"You're not the only ones in that lowest bracket, but you're the ones that matter most. Suppose they could force you out for higher paying customers. Where would they want you to go and what would they want you to do?"

She stared at him, her blue eyes very wide. "To go build more downs."

"Two birds killed with one stone." He held up his hand, keeping her from leaping to the next conclusion. "I know what you're thinking, but there's a lot more to this than you see at first glance. Give me a chance and I'll show you. Tell me, what were you promised when you first came here?"

She sat back, crossing her arms. "We helped build Serenis. We were already Citizens, but just scraping by in tiny cubby because place was getting expensive," she recited tonelessly. "Recruiter said give up place we have, come live here, work full on instead of month on/month off, get special privileges. Like we could pick own spot and build what we want for ourselves. It sounded good. We figured to settle here permanent. Maybe keep working here, or work month on/month off at other new downs after this job done but have here as home. Maybe start family."

"What happened instead?"

She muttered something under her breath, then said, "Screw job. They tell us space we made bigger than agreement allowed, must reassess. Up goes lease. Then they lay my husband off and cut my time in half. We are no longer able to even pay old lease price. We get evicted, assigned to 5 × 5. My Billy go to MOON offices to file complaint. Next thing I know he is in Maze, squareonned for 'creating disturbance.' He has already been offered contract to go work on new down at Manlius. If I do not sign on with my husband I could end up sent other place, or even grounded."

"So MOON gets two fulltimers on top of the place you built for yourselves. The work goes on—even though construction trades have been cut to less than 2 percent of all immigration. At a rate over twice the original projections."

"We are being used." Irena sighed bitterly. "Maybe Marx was right after all."

"There's even more to it than that. You're not the only ones being used." Ben took a nip off his beer. Now came a hard part.

"Let me tell you about me and my wife. We're in the middle bracket. We got here the hard way, first getting work on High Birmingham and managing to hold on there until MOON accepted us for resident status. Then we spent over a year in a Tycho 5×5 waiting for a place, a period that nearly cost us our marriage. Finally we were offered a place here. The cubby Simon Levanthal built for himself and his family, come to find out. It was bigger and nicer than anything I ever expected. It seemed too good to be true."

He looked around the table again. Jimmy was somberly attentive, his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hooded eyes thoughtful. Mona lounged back in her chair wearing the face of a black buddha. Irena leaned on the table, hanging on every word.

"Then I get the hell scared out of me and find out that there are people trying to take it away from us. Everything we worked so hard and waited so long for is threatened—if not our very lives. Just when things look the worst I'm offered a way out. A way to protect myself. If I want to keep what I have, and help fight those trying to take it away, all I have to do is join ACSPAN."

"Your wife did join," Irena said softly.

"Yeah, she did." Ben answered glumly. He'd come this far, he might as well put all his cards on the table. "She's already made it clear that if I oppose her our marriage is over. So its join ACSPAN—or at least go along with them—or lose both my wife and my home."

Mona finally spoke up. "So why aren't you in a nice red uniform helpin' protect decent folks from discontented trash?"

Ben stared at her, wishing he could see what was hidden inside that dread-locked skull. It would make things so much easier.

"I found that I couldn't put down my roots without ripping out somebody else's. I've got a dead grandmother acting like a monkey on my back." He realized that none of that would make any sense to them, or how those four simple words *It could be you*, haunted him.

"Let me tell you something about writing. The surest way to write a bad story is to have the only thing holding it together be coincidence. Everything that happened to me was too neatly timed. Too mazelike." He patted his beaky nose. "When you have a honker like this you can't help but notice when someone tries to lead you around by it."

He stared hard at Mona. "MOON may be a corporation, but it is still, at heart, a bureaucracy. Lunar settlement should be running behind schedule and over budget. But it's not. Somehow they manage to have more than enough labor to build double the projected number of downs—even though there's only a trickle of new workers coming in. How are they doing it? Well, coincidentally enough, they have all these workers who've been squareonned for raising hell. Rioting, assaulting people, vandalism, and all that. The question is, why are they acting that way?" He faced Irena. "Why are you acting that way?"

"Because we must do something. Legally we can only sue for redress, but that is bad joke. MOON controls system. So we must do other things to make people listen."

"Desperate folks commit desperate acts," Jimmy drawled. "Put someone in a vice, they kick and scream. Steal their homes and rights out from under them and you're just asking for trouble."

"You're right as far as it goes," Ben agreed. "But trouble takes time to brew. Unless the heat is turned up and somebody stirs the pot." He could see from the looks on Irena and Jimmy's faces they were beginning to see the pattern he'd seen. As for Mona, he doubted she had heard one new thing yet.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"ACSPAN." Irena spat, making it sound like a curse. "We turn around and they are in our faces. Every time there is trouble they are right in middle of it. But we are ones end up with busted heads and butts in Maze. Troopers never touch them. Things were not half so bad before ACSPAN formed."

Ben remained silent. They were almost there. Jimmy and Irena exchanged glances. The bar owner squinted at Ben. "Earl Broome is ACSPAN's head honcho. ACSPAN just happens to . . . coincidentally serve MOON's end." He blinked slowly. "You're saying that he works—"

"*For MOON!*" Irena hammered her fist on the table as if nailing Jimmy's point down for him. "Son of bitch works for MOON!"

Ben felt some of the tension inside him loosen. "The term is *agent provocateur*. Straight to you from Misty Down. Where, by the way, their version of ACSPAN has been all but disbanded."

Irena shook her head from side to side as if trying to sift through all the implications. "So . . . you are saying ACSPAN was started for purpose of egging us on, make us so crazy new folks would join it to protect selves from us. Struggle becomes endless loop."

"Like two dogs at each others' throats in the dust," Ben agreed, quoting his grandmother. "From what I can tell, Earl and a couple accomplices have been purposefully engineering situations to *provoke* trouble. Setting up Simon and me. Arranging ambushes like last night. Terrorizing the very people they were supposedly protecting, and making sure you got the blame. Let me give you a for instance. My second night here I found a decapitated doll on my doorstep. Its head had been filled with red paint so 'blood' would spill when I picked it up. Its face had been made up to look like mine. 'It could be you!' was written on its forehead, and there was a toy compad nailed to one of its hands. Because I was a writer. There was no way for me to misunderstand the message."

Irena shuddered. "You thought *we* did that?"

"At first," he admitted. "I was *supposed* to. But that compad bugged me. After a while I got to thinking about who even knew I was a writer."

"I knew," Jimmy pointed out, looking Ben square in the eyes.

"Yeah, you did. Who else? Earl Broome and the three guys who were with him that first night in here. Which brings us back to coincidence again. Shortly after I came in that first night, one of Earl's shadows, Norm, leaves for a few minutes. Right after that Simon comes in, obviously looking for someone. When he attacks me, Earl and company step in." He glanced at Mona.

"Someone hinted that whole thing might have been a set-up. But if it was, how did Earl know who I was before he'd met me? He couldn't. Not unless he has access to MOON's records of new arrivals. How did I get here in the first place? I found an ad stuck to my door."

"But I don't advertise," Jimmy said. "I told you that before." He stared at Ben a moment, then chuckled. "Right. That ad was made up to get you here."

"So it would seem. That second night Earl just happened to come in, find me here, and be with me when I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

got MOON's notice of suit—which was conveniently delivered while I was gone. He made a big deal of offering help if I needed it, and gave me a sheet pitching ACSPAN. Call him any time, he said. Not an hour later I got the doll. Shortly after that you sent Chloe with the picture Simon had in his pocket the night he attacked me. That proved that you were trying to work on me too, but why send such a subtle message after such a graphic one? It didn't make sense."

He settled back in his chair looking at each of them in turn. "I could go on, adding things like someone yelling out who I was at that riot, or that business last night. The common factor in each is Earl Broome, and too damned much coincidence to swallow and not choke."

Mona leaned forward, immediately drawing all attention to herself. She eyed Ben, that maddening half-smile still on her lips. "This is all very interesting, Ben, but can you prove any of it? That he left the doll? Set you up that first night? Or at the riot? Or last night? That he works for MOON? Without proof it's nothing but supposition and circumstantial evidence."

Ben smiled back at her, stroking his mustache. "You know, Mona, sometimes you talk an awful lot like a cop."

He watched her open her mouth to answer, then give him the faintest of approving nods. "Well, you talk like a writer. So tell me, Mr. Writer—have you figured out how to write a happy ending for all this?"

Ben took a deep breath, his gaze still locked with hers. He had come a long way to get to this point, but he was still on safe ground. One more step and he would be past the point of no return and into the murky uncertainty of total involvement.

But was there really any way to stay uninvolved? Just like ACSPAN said, If you're not a part of the solution you're a part of the problem.

Laura, forgive me. He let the breath he'd been holding back out. "I might. But the black queen would have to make a lot of very fancy moves to let the bishop pull off a checkmate."

Mona threw back her head and guffawed, her dreadlocks doing a spidery dance on the silver hills of her shoulders. Jimmy and Irena exchanged mystified glances.

"Oh honey," Mona said at last, "I got moves they ain't even got names for yet." She thumped the table with her huge fist. "Better set us up again, Jimmy.

He stared at her as if he thought she'd had one too many already. "Why?"

She drained the remains of her first bottle in one long, awesome swallow then put it down. "Cause you can't make a righteous toast to success with an empty jug, that's why!"

Ben was just finishing up some last minute details in his office late that next afternoon when he heard Laura come in. He put his compad on standby and glanced at his watch. The very stroke of four. Whatever her other faults, Laura was always fanatically punctual. He stood up and headed for his office door, his compad tucked under his arm.

Just as he opened it a crack to peer out, someone started pounding on the cubby's front door.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Forgive me. He took a deep breath. "Can you get that, hon?" he called.

When he heard her cry of surprise he hustled out the door and down the stairs, telling himself for the hundredth time that day that he was doing the right thing.

Laura writhed and spat with a feline fury as Mona brought her back into the cubby's main room. Strong as she was, she couldn't pull out of the grip of the huge hands locked around her arms. Mona held her out at arm's length, kicking feet off the ground, like a child having a tantrum.

Irena darted in to paste a sedative derm to Laura's neck, almost losing a finger to Laura's snapping teeth in the process. Within seconds Laura's struggles began to subside as the derm took effect.

"It's OK, love," he told her soothingly, "They're not going to hurt you." She turned her head toward him, rage slowly being replaced with a bewildered reproach that made him feel like a monster.

"W-why . . ." she asked, as her eyelids sagged lower over her muddied eyes. A tear rolled down her cheek.

Because I love you. He answered silently, blinking back answering tears and making himself watch until her head lolled to one side and her body went frighteningly limp.

"Don't worry," Mona said gently when she saw the forlorn look on Ben's face. "She'll be OK. Half an hour from now she'll come back around, good as new. We did Mack Powers the same way. He's already there, wide awake and madder'n a pinched weasel." She draped Laura over her shoulder. "You all set?"

"I guess." They were committed now. Or he was. Even if this did work out the way they planned, there was a good chance Laura would never forgive him. He fought the sick feeling in the pit of his stomach by reminding himself that was just one of the many risks they were going to run.

Looking past Mona and her burden, he saw a trooper standing just inside the front door. Officer Jo Xiaoxin, oracle of the Maze. She stood stiffly at attention, her face a stiff mask, her hands curled into fists at her side. Irena waited beside her.

Ben glanced back at Mona, raising an eyebrow in inquiry. He knew ahead of time it wasn't worth wasting his breath asking her how she had managed this. She proved him right by giving him a coy, indecipherable smile in reply.

"Let's do it then," he said, right after realizing that they had been waiting for him to give the order. How had he ended up in charge?

Irena opened the door and they filed into the tunnel. The trooper led the way, face front, walking with a robotic stiffness. Irena followed her, constantly on the lookout for trouble. Mona was next, carrying Laura over her shoulder as if she weighed nothing at all.

Ben brought up the rear, clutching his compad. His gaze was drawn again and again to his wife's slack face. All he could do was hope that he hadn't written them all into one of those endings where nobody lives happily ever after.

Less than an hour later he was sitting alone at a table in the middle of the Escape Hatch. There was a three-quar-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ters full bottle of very expensive real Kentucky Bourbon in the center of the table, and a full tumbler in front of him.

He stopped himself from wiping his sweaty palms on his pants again, and took a small sip of his drink. Chloe was dusting bottles behind the bar. The place was otherwise deserted. Once the guest of honor arrived, some of Irena's friends would see to it that they weren't disturbed. Other friends were assigned other tasks. A hundred things could go wrong.

The temptation to look at the big mirror behind the bar was constant and nearly overwhelming. He had to remind himself that he wouldn't see anything other than his own pale and sweaty face anyway. Now if only—

"Hey there, buddy!" Earl Broome called as he appeared in the bar's entrance. He sauntered over, leaving his short fat shadow Norm guarding the door. Norm smirked at Ben, leaning idly against the door frame and tapping his nightstick against his knee. *I hope you kneecap yourself, schmuck*, Ben thought, then turned his attention back to the reason he was here.

"Hello Earl," he answered, trying to keep his voice level.

Broome sat down across from him, looking from Ben's face to the bottle, and back again. "Hittin' the hard stuff, ace?"

Ben shrugged. "I guess. You want some?"

"Hell, yes!" He turned toward the bar. "Hey sweet thing! Bring a glass, I'm dying of thirst here!" He threw Ben a wink. "Ain't that some sweet stuff, though?" When Ben didn't answer he slouched back in his chair. "So what's up? You finally decide you want to join ACSPAN, just like the little woman?"

"I want," Ben said tightly, "you to leave my wife the hell alone." This time his voice did crack, but that was all right.

Chloe appeared with a tumbler, put it in front of Earl and backed away from the table before he could give her his usual wandering hands treatment. But he ignored her, just sitting there gazing at Ben and looking amused.

"Is that so." He chuckled to himself as he filled his glass, then took a long pull on the drink. "You threatening me again?" he drawled lazily as he lowered his glass.

"I'm telling you how things stand. How you take it is up to you." Ben knew he sounded lame. Like a scared little bookworm.

Broome took another sip. "I gotta tell you Ben, don't see how you're in any position to do much of anything if I tell you to go fuck yourself." That big friendly smile was a smirk now. Norm snickered behind him.

"That's because you're stupid," Ben answered quietly. "You've been getting sloppy, Earl." He shrugged. "Maybe I have a better eye for detail than most, but before long everybody's going to know what I know. They'll know it for sure if you don't get your hooks off Laura."

Broome's smirk was turning into something harder. "Know what, old buddy?"

Ben took a sip of his own drink before answering. His mouth was so dry it was a wonder he could talk at all. "Do I have to say it out loud?"

"You seem to think you have a hand.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Let's see your cards."

"You work for MOON."

All traces of humor were gone from Broome's face now. "You just bought yourself a mess of trouble, Ben. Bad trouble. Fatal accident type trouble."

Time to turn up the heat and stir the pot.

Ben laughed. "Earl, every move you've made on me has blown up in your fat stupid face. Even feeding me to Irena and her friends. I'm still here."

"Not for long." Broome reached inside his leather jacket and pulled out a gun. "Amateur night's over." He laid it on the table in front of him, the stubby nickel-plated barrel pointed at Ben, then took another gulp of his drink. When he put the glass down it was over half empty. "Sometimes you want something done right, you got to do it yourself." The grin he gave Ben chilled him to the bone. "Course it helps when you enjoy your work."

"Guns are illegal on the Moon," Ben pointed out with all the calm he could muster. "Just thought I'd mention that."

"Let me tell you about illegal, old hoss. Anything I do is legal. Period. The law won't touch me."

"What about the troopers?"

Broome waved his hand, dismissing them. "What about 'em? They want to keep their nice jobs and nice cubbies. They know enough to keep their mouths shut and follow orders. They work for MOON, and know it ain't smart to work against it." A rueful shake of the head. "Too bad you weren't smart."

"I don't know," Ben answered quietly. "I outsmarted you a few times. I figured out who you worked for and what you were up to."

"I suppose you did." He sucked on his drink then rubbed his chin meditatively. "Maybe I have gotten a little too loose in the details department lately. Gotten in too much of a hurry." He sighed. "But speed's what it's all about. Got them downs filled with the deepest pockets you can find as fast as you can. Get them po' folks out building more downs. Sometimes progress is a bit messy around the edges."

"You're a real visionary, Earl," Ben said encouragingly. "You want to see the Moon colonized as fast as possible."

Broome snickered. "Shit. I could give a flying flug about this place. One more 'housecleaning' and I retire. Back to Earth." He shook his head. "I can't believe all the chumps want to live here. If I'm gettin' in a hurry, it's because I've had it up to here with chumps."

"It must be hard playing both sides against the middle," Ben said sympathetically.

Broome drained his glass, refilled it. The combination of 90° Kentucky Bourbon spiked with 180° grain alcohol was taking its toll. Broome's speech was growing slurred and his inhibitions were being washed away with every sip he took.

"Shows what you know, smart guy. It's so easy it's pathetic. Y'build a powder keg and light th' fuse. Squeeze the grubbers'n they go crazy. Use what they do an' a few other things you do yourself to scare the other chumps. Help 'em band together and put the pressure on the grubbers, which only makes'em all the crazier. Set 'em up and pick'em off." He took another long pull on his

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

drink, a self-pitying look on his face. "Sheep. All of 'em," he complained pettishly.

"Am I a sheep too, Earl?" Keep it personal. Keep him talking.

Broome stared at him over the rim of his glass. "You, you're a watchacallit. An *aberration*. I don't know if you're smart, or just lucky." He patted the gun. "If it's luck then it's about to run out in a leetle hole twixt your eyes." He snickered. "Next round's on me, bud—32 caliber, hollow point." He indicated Ben's glass with a move of his head. "Better drink up, sport. Last call."

Ben took a tiny sip, then said, "If you kill me there are going to be a lot of questions."

"'Fraid not, buddy." Broome shook his head ruefully. "I figure Irena oughta pay the freight on this one, dumb bitch let me down before. Or maybe that big 'putin nigger Mona Lincoln." He scowled. "She's another ab'ration. Never have got a fix on her, an' every hack I've taken at her's been a miss."

"Sounds to me like you've been missing more than you've been hitting lately, Earl," Ben sneered, trying to get him bragging. It worked, but not in the way he expected.

"Oh yeah?" Broome shot back. "Whose wife is it following me around like some bitch in heat, huh? I already got her eatin' up my every word, and I plan to start feedin' her the main course real soon."

His face took on a look of mean-stupid craftiness. "She ain't much in the face, but I bet once she gets goin' she can just go for *hours*, right? Wanna lay odds I have her on her back before you even get cold?"

Ben stared at his smirking face, the effort it was taking to keep his anger in check making him feel sick and dizzy "I think your eyes are bigger than anything you got to follow through with, Earl," he shot back. Contempt came easily and he let it run. "You haven't been getting much of what you want lately. Pretty soon you're going to get what you deserve."

Broome squinted at him. "You keep rackin' on that, don't you? The thing is, with MOON behind me I can have whatever I want. Do whatever I want. I c'd shoot you right now. This instant." To prove the point he picked up the gun and aimed it at Ben's face.

Ben strove to keep his eyes off the gun by making himself stare into Broome's eyes. "What about witnesses?" he asked with an artificial calm. "Your man at the door? Or Chloe?"

Broome made a rude noise. "Norm there works for me. Right Norm?" The man at the door grinned and made sure Ben saw that now there was a gun in his hand, too. "Who you think tipped off Irena and her playmates?" Broome went on. "Or yelled out who you were at that demonstration? As for sweet little Chloe . . ."

He turned and gave Chloe a long leering look, then chuckled darkly. The sound made Ben shudder. Never in his life had he heard anything as ugly and ominous.

"I got my mark on her," he informed Ben with a cruel, self-satisfied smile. "She's mine whenever I decide I want her, and she knows it." He raised his voice. "Right darlin'?"

Chloe refused to look back at him,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

her averted face pale and frightened. Broome chuckled again. "That's good, honey. Stay quiet or else you find out what nasty really means."

"What about Jimmy?" Ben asked, drawing Broome's attention back to him. "Are you going to rape him, too?"

"You just don't get it, do you?" Broome sighed, shaking his head sadly. "Hatch knows that if he opens his mouth he's done for. One word from me and his lease might's well be written on toilet paper. Maybe a couple of his customers die, or worse. I hold all the cards and the house is on my side." He knocked back the rest of his drink and wiped his mouth on his sleeve. "Time to cash you out, old buddy." He stood up, swaying slightly, and gestured with the gun. "Let's go."

"No, I don't think so." Ben risked a glance past Broome and saw Trooper Xiaoxin materialize behind Norm. The tubby gunsel's eyes bugged out of his head as she snapped an armored arm around his throat, jerking him off his feet and strangling any cry he might have made, while slapping a derm on his neck with her free hand. A fraction of a second later Mona appeared in front of him, uncannily silent for her size, grinning happily as she tore the gun out of his grasp. Ben heard the faint crunch of breaking fingers. Norm's eyes bulged, then rolled back in his head.

"Earl!" Chloe shrilled at that same instant. *"Look at me, you dickless pig!"* Broome's head swiveled toward her just as she ducked down behind the bar.

"Oh Earrrrrl-kins!" This was no high, girlish cry but a full out bull moose bellow that rattled every bit of glass in the bar. Broome's head snapped around in the other direction so fast it threw him off balance, making him stagger as he tried to get turned around so he could see behind him.

Ben's hands were already under the table, tightening around what he had hidden there. Beginning to pull.

Broome's eyes bulged as he saw Mona sailing through the air toward him, mid-point in a leap that only her powerful legs and the low lunar gravity made possible, covering the eight meters between them in a single awesome bound.

He wheeled clumsily toward her, desperately trying to get the gun pointed at her, his reactions slowed by alcohol, but the target too big to miss.

By then Ben had his wife's nightstick out from where it had been taped to the underside of the table. He whipped it around and brought it down on Broome's arm with all his strength. There was a sickening crunch as the polyfiber truncheon smashed into Broome's wrist. The gun went flying. Ben felt the bones *give*, and his lips peeled back from his teeth in a feral grin as he lifted the stick and got ready to hit him again.

Broome's mouth stretched open in the beginnings of a scream of rage and pain. He started to lunge for the gun with his other hand.

Half a heartbeat later Mona came in for a landing. Later on, Ben would feel a writerly unease at describing the event with the cliched phrase of *"She landed on him like a ton of bricks."*

But that was exactly what she did. She caught him square in the chest with

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

both size 14 feet, and with such force that her momentum carried both of them clear across the floor and drove him into the front of the bar, bowling over the stools like tenpins and reducing its foamstone front panels to rubble.

Ben raced over, brandishing his wife's nightstick. He skidded to a halt, ready to hit Broome again if necessary. Hoping it was necessary.

He saw that Earl was in no condition to get back up when Mona climbed up off him. She dusted herself off primly and leaned on the bar. "Well, so much for my observer status," she said to no one in particular, looking inordinately pleased with herself.

Jimmy came out of his office and hustled over. The second Mona put her hand on the bar he put a bottle of beer in it. She saluted him with it, looking even more pleased than before.

Mack Powers came out after Jimmy, wearing the pained expression of someone who has been forced to confront the very things he had been trying to hide from himself. His dark skin had a grey cast to it, and he carried himself like someone who had been beaten. Not by another, but by that worst of enemies—himself.

"You OK?" Ben asked him.

Mack gave him a glum nod, but refused to look at him. "Considering. I've been real wrong about a lot of things. It looks like I've got a long way to go to make it right again."

"Sure looks like a rocky road to me," Ben agreed.

Mack looked up at Ben first in surprise, then uncertainty, and finally in understanding. "But I guess you've got to travel it if you want to get somewhere," he said, squaring his shoulders. He came around the bar and helped Jo Xiaoxin haul Broome up to a sitting position and cuff him. Several other troopers had already come into the bar and taken Norm into custody.

Ben looked toward Jimmy's office but saw only his own reflection in the mirror. No sign of either Irena or Laura.

"You won't get away with this, Kuhn."

Looking down, he saw Broome glaring up at him. Blood trickled from his nose and his face was a mask of unadulterated hatred. Not that long ago it would have frightened Ben.

"It's over, Earl," Ben said quietly. "Everything you just said was fed directly to every communit in Ambrosia. Another feed went straight through my agent's office to Global Newsweb, and you can bet they won't keep this scoop quiet. Your confession might not hold up in court, but I'd be willing to bet MOON is going to try to call you a renegade and blame everything on you. If you're smart you'll cut a deal for full disclosure."

Jo Xiaoxin and Mack hauled Broome to his feet. He struggled against the hold they had on him with impotent rage. "You can't do this to me!" he snarled. "I'll get out and I'll get you!"

"I think," Mack informed his former leader softly, "You better hope you don't get loose. I imagine that by now all the *chumps* here in Ambrosia are finding out that they have a lot in common after all. I bet a lot of them are starting to wonder if it's possible to lynch someone in a sixth gee." He smiled. "You don't shut your pluggin' mouth we might just hand you to them

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and lend them a rope."

Broome let out an inarticulate hiss of insane fury, but took Mack's advice and kept his mouth shut. Three troopers came over and took him off Jo and Mack's hands, something like quiet triumph in their faces. Jo looked to Mona for orders. "Should I go with them, General?"

Mona wrinkled her nose and shook her head. "Nah. Stick around. If Happy Hour don't start soon you can help me bust this dump."

General? Ben thought, staring at the huge black woman in disbelief. He'd thought maybe she was a cop or something like that. But a *general?* Before he could ask about it, and probably not get a straight answer, Irena slipped out of Jimmy's office.

"She will not come out, Ben," she said quietly. "I try talking to her but she will not listen."

Ben sighed. "Then I guess I better . . ." he began uncertainly. Talk to her? Leave well enough alone?

"Guess, hell," Mona said. She picked him up, hoisted him over the bar and deposited him on the other side. "You get your skinny white butt in there and talk to her."

Jimmy held the outer door open for him. He went through it, got as far as putting his hand on the knob to the inner door before he stalled. He had no idea what might happen next. How this part of the story might end. Maybe happily, maybe not. Probably not, since things rarely worked out as neatly in real life as they did in stories.

"Go on," Jimmy urged. Ben looked back at their circle of faces. At his circle of friends. Jimmy gave him a slow wink. Jo Xiaoxin nodded solemnly. Chloe smiled. Mack and Irena each gave him a thumbs-up.

Mona hoisted her bottle, smiling broadly. "She dumps you, there's always me."

He was almost smiling when he opened the door and stepped inside. Laura was slumped over the table with her head in her arms. She seemed to have shrunk inside her red uniform, looking very small and very lost. "Go 'way!" she cried in a muffled shriek. "Leave me alone!"

But he didn't. Instead he closed the door behind him and started up that rocky road.

Ben was on his way back from the cargo area to where passengers were to board the shuttle when someone grabbed his arm. He looked around, smiled. "How're you doing, Mack. Going someplace?"

Powers spread his thin black hands. "Same place as you, I imagine. The new down being built at Manlius."

"Glad to hear it." They continued on toward the passenger area. "I didn't know you knew any construction trades."

Mack grinned sheepishly. He'd shaved his beard, perhaps to signify a new start. It made him look younger, less severe.

"I don't. Not many systems analysts do. But I've taken a six months leave of absence to learn, and put what I pick up to use. When I move my family there I want it to be into a place I *know* is mine because I helped make it with my own two hands."

Ben wasn't really surprised. A lot had

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

changed in the past few weeks. A whole world of change. "There seems to be a lot of that going on."

Mack chuckled. "Yeah, doesn't there? The funny thing is, it looks like what's happened may get the Moon settled even faster then before."

"People want to live here on the Moon, and they express their commitment in whatever ways are open to them." Ben laughed. "Jesus, I think I've been interviewed too many times."

"Sure sounds it. Think you'll be able to get any peace and quiet at Manlius?"

"I sure hope so. After all, I've got those two books to write." His own books, under his own name. Somewhere along the way his ghostwriting days had ended. It felt scary, but good.

"Know what you're going to call them yet?"

Ben shrugged. "I've got some ideas. I'm thinking about calling the one about what happened here in Ambrosia and inside MOON, *Downside*."

Mack didn't look exactly overwhelmed. "That's what you call a working title, right?" he said blandly, peering down his nose at Ben. "What are you going to call the one about building this new down, hopefully immortalizing all those who work on it? Like me, for instance."

Ben watched the other man out of the corner of his eye. "Well, I'm thinking of calling that one *Rocky Road: From Dust and Stone to Homeland*."

Mack pulled a face. "I suppose you're going to give me credit for the title."

"Hell no!"

Both men were still laughing when they reached the bustling passenger area. It looked like a lot of people would be going to Manlius with them. They scanned the crowd jamming the bay for familiar faces. Ben didn't see any until Mack tugged on his arm and pointed off to one side. "Over there."

Mack's wife was there to see him off, a tall elegant mulatto woman with big dark eyes. She was dressed in an expensive tailored suit and her bearing was quietly aristocratic. The smile she gave Ben had a weary, worried edge to it, but was still warm and friendly. Ben ducked his head and said hello when Mack introduced him.

"Hey there kiddies!" The three of them turned to see Mona bearing down on them. She wore a fully armored pressuit that made her look big enough to qualify as a spacecraft all on her own. The regulation UN Forces black had been mostly covered over with a motley assortment of bumper stickers, decals, and what appeared to be sequins glued to it.

"Anybody know if they're gonna serve drinks on this tub?" she bawled.

"You're going, too?" Ben asked in amazement. "I thought you were back on Earth, reporting your 'observations.' " It had been something of a revelation to find out that this huge madwoman was a brigadier general in the UNF, and sent to investigate clandestine reports of irregularities made by MOON troopers, who were nominally part of the UNF themselves.

She made a face like she had found a bug in her beer. "I did. Hell, I reported myself hoarse. Finally got sick of telling the same story over and over to flatbutts who already knew it anyway. So I resigned my commission and caught the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

first shuttle back. Since Jimmy's settin' up the Escape Hatch on Manlius, I signed myself up as head of the trooper detachment there."

She tossed her head, dreadlocks dancing, then gave both Mack and Ben the hairy eyeball. "You clowns get in trouble you better have beer money in your pockets, that's all I can say."

"Isn't getting reduced from general to a captain—" Ben began, suddenly feeling a hand slip into his own. He looked around, and there was Laura beside him. When he gave her a smile he got one in return, tentative and yet sweet as a stolen kiss. She held his hand tightly, possessively. Like she would never let go.

The call to board blared out. The crowd began to shuffle toward the now open shuttle doors. Mack kissed his wife goodbye. Mona snickered.

"All set?" Ben asked his wife.

"For better or worse," she said, picking up the container by her feet and cradling it protectively in her other arm. "Let's go home, Ben."

The container was hermetically sealed and temperature controlled. Sealed safely inside it was their as yet unplanted Tranquillity Rose.

Very soon now they would be planting it in a place of their own. Putting down those roots. Tending them to blossom.

Together. ■

●My imagination refuses to see any sort of submarine doing anything but suffocate its crew and founder at sea.

H. G. Wells, 1902

●A popular fantasy is to suppose that flying machines could be used to drop dynamite on an enemy in time of war.

William Henry Pickering, 1908

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the reference library

By Tom Easton

Harmony, Marjorie Kellogg, ROC, $5.50, 474 pp.
Lens of the World, R. A. MacAvoy, Avon, $3.95, 286 pp.
Slow Freight, F. M. Busby, Bantam, $4.99, 311 pp.
Stranger Suns, George Zebrowski, Bantam, $4.50, 311 pp.
Heads, Greg Bear, St. Martin's, $14.95, 125 pp.
Inside the Funhouse, Mike Resnick, ed., Avon, $?, ? pp.
Alternate Presidents, Mike Resnick, ed., TOR, $ 4.99, 488 pp.
James Gleick's CHAOS, the Software, Autodesk, Inc. (2320 Marinship Way, Sausalito, CA 94965, 415-491-8725), for IBM-compatibles, $59.95.
Rudy Rucker's Cellular Automata Laboratory, Autodesk, Inc. (2320 Marinship Way, Sausalito, CA 94965, 415-491-8725), for IBM-compatibles, $59.95

One of the basic tools of literary social criticism is irony. Saying one thing when you mean another. Labeling something *so* when it is really something else again. And it's so easy to do! It's all around us in the real world. A peacekeeping force that is heavily into using the weapons of war. A People's Democratic Republic that is really an iron boot of tyranny. Education that actively discourages independent thought.

So perhaps it isn't too surprising to find that a book called **Harmony** is really about disharmony and conflict.

Marjorie Kellogg posits a world divided into ultimate haves and have-nots. As the technology became available, our world's cities found that enclosing themselves in domes allowed them to control the weather and preserve all the best features of urban life. They could expel all pollutants and other undesirables—including the poor—to the toxic wilderness Outside. And then they could congratulate themselves on having solved all the problems that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

really mattered.

Did the baby go out with the bathwater? Well, Chicago decided artists were subversive, unproductive influences and banned them along with all the other garbage. Therefore any young girl with a yen to be an artist must resign herself to being kicked out as soon as the authorities discover the sketches in her closet, or she must apply to the domed city of Harmony in Vermont, where artists rule and an apprenticeship program accepts scholarship kids from other domes. Of course, if one doesn't get promoted from apprentice to journeyman to citizen, one is ejected into the cold, cruel world Outside anyway, but it's the only game in town for Chicago—and other—artists. Gwinn takes her shot and is soon nestled beneath the wing of master theater designer Micah Cervantes.

Harmony's fame is rooted in the fruit of its apprenticeship program, which has concentrated the world's artistic elite in one small place. But its economy is now based on art. Tourists lean over the artists' shoulders. Artworks jam the gift shops—er, I mean galleries, of course. Predictably, the quality of the art suffers. The theater productions that draw the crowds are long on flash and glitter and short on substance. Masters find themselves trapped into working on tourist traps for other domes (Micah's albatross is a fantasy game-world for the Marin County dome). And soon the deal-makers and money-chasers decide that artists aren't really necessary at all. Apprentice hang-outs discover that they have atmosphere, hire maître d's, raise their prices, and lock out the very apprentices responsible for the atmosphere. A "Closed-Door League" appears, pressing anonymously to bar further immigration of new apprentices, to kick out those already present, to keep Harmony for its native-born alone. Artistic "talent," says the CDL, isn't really necessary; good technicians will do just fine.

And yet—while Gwinn is learning her trade, the artists are still there. There is a new play, "The Gift," and a troupe of actors, the Eye, from Tuamatutetuamatu in the South Pacific, a part of the world that is mysteriously free of the toxic vapors the city fled when they built their domes. There are rumors of conflict in Tuamatutetuamatu between those who want a dome and those who do not, who speak of nature as if it were mystic and magical and imbued with a divinity that deserves human respect.

The Eye's ten actors arrive to enchant Gwinn and her friends. "The Gift" takes on an air of high art, of nobility, of futility. The CDL grows more strident. Apprentices and actors are attacked in the streets. And . . .

I'm not sure a truly satisfying ending is possible for Kellogg's story, at least not in the form she chose to give it. The problem may lie in who the author is (like Micah Cervantes and Gwinn, a theater scenery designer) and where she lives (New York City). The world of the novel is thus convincingly rich in texture; Kellogg knows the people, procedures, and issues of theater very well indeed. She also knows that artistic hotbeds do turn commercial and thereby destroy themselves.

But the ending . . .

What do many (not all) intellectual, artistic New Yorkers do to solve the problems of their city? They flee to the countryside, where there is a life worth living despite all it lacks of the charms of urban glitter. But that is no solution at all, even if the refugees do vow to keep up the battle.

Sadly, New York's urban peasantry

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

cannot flee the city's problems. What can they do? And where is the parallel to what they do in Kellogg's novel?

Ah, I forgot. The peasants were all kicked out of town long ago. Kellogg's cities belong to the elite alone, and urban problems are theirs alone.

R. A. MacAvoy has written marvelous fantasy and pretty good science fiction. So what can you expect of her **Lens of the World,** the opening volume of her new trilogy?

One or the other, clearly, and good either way. But it's hard to say that *Lens* is really either fantasy or SF. The place names are all strange, and the culture and technology are medievaloid (or post-medievaloid; there is a nascent science). So it looks like fantasy.[1] But there is no trace of magic except in the misunderstandings of strange skills by ignoramuses. On the other hand, there *is* a dragon, although once slain it is revealed as "some sort of swine." Perhaps it is a mutant and thus comprises a hint at a past from which the present has decayed. Or perhaps what we have here is one of those rare books that reveal a different world—past, future, alternate, or just plain other—only as its residents, the story's characters, experience it. This is what John Campbell called for decades ago when he asked writers for stories that might be written, published, and read in the world which they describe. It is also what precious few writers ever produce, for they almost always feel obliged to make the background of their world, its differences from and similarities to the world of their readers, abundantly clear. The result is vast wads of pseudo-historical and pseudo-sociological exposition or work so firmly centered in a popular, commercial, reader-familiar category that said work rarely rises above the level of derivative hackwork.

The reason is that writers—or maybe their editors—don't trust readers to figure background out from context, or for that matter to be willing to dwell for a time in an entirely new context, which is what MacAvoy asks.

Lens purports to be a document written by a scholar for his king, recalling the scholar's childhood and education. The scholar, Nazhuret, was an ugly orphan sent to a training academy for noble scions. Lacking family, except for the uncle who paid his tuition, he remained long past the usual term, becoming servant, pet, mascot, and even teacher. Eventually, however, he was too old to stay. Faced with the prospect of entering the service of the despicable Baron Howdl, whose daughter had once been Nazhuret's playmate and is now rumored to be dead, he wanders off and encounters a building the modern reader promptly recognizes as an astronomical observatory. In the building, he finds a strange man who reacts oddly to Nazhuret's name and accepts him as something of an apprentice in a program of perception and acceptance that sounds rather zennish. Nazhuret becomes a supernally skilled swordsman, a grinder of lenses, and, once he is kicked out of the observatory, a slayer of dragons. In due time, he encounters the mysterious Arlin, saves the king from an ambush, learns the true identities of his astronomer, himself, and Arlin, and comes to the brink of that position which justifies the king's interest, decades later, in his early years.

MacAvoy's point is character, growth, maturation, and the thought inherent in her title, that a thoughtful, perceptive person is the lens through which the world can see itself. It's an interest-

[1]That's what the label says it is, too.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing book that suffers, if it suffers at all, only by being less strikingly impressive than some of her past work.

F. M. Busby is back with a pretty satisfying adventure of high tech and alien contact. It's **Slow Freight,** and the title keys on the tech: a form of matter transmission that requires a full two years between input and output, whether in and out are twenty centimeters or twenty light-years apart. It's not terribly convenient for commuting, but it's great for pipelining supplies—including relief crews—to spaceships. Add to this a reactionless drive which if it is not tuned quite right accelerates time instead of mass, and you have the key to the stars.

The narrator is Rance Collier, a physics grad student in at the beginning and turned PR flack to help push the tech along. Despite complications in his love life, he winds up on the first trip to the stars, aboard the *Starfinder*. When he exits the pipeline, he finds that things have already gone awry. Something going faster than light has brushed past the ship and fouled its systems. Rance and his lover soon set things to rights.

Skip now to the Liij Environ, the alien ship whose close passage damaged the *Starfinder*. Something like a ramscoop in that it swallows matter with a funnel-shaped field, it propels itself by generating space itself in its wake. And the encounter has damaged it as well, slowing it well below light-speed. Its course is taking it straight to Earth's Solar System, where it will refuel by gobbling comets, asteroids, and assorted moons of Saturn and Jupiter before it heads for Earth itself.

But the folks on the *Starfinder* know nothing of all this. They have their own problems, for the next relief crew has arrived. The new captain is Old Iron Tits, who likes her daily orgy a bit too much and, it eventually turns out, plans to preempt ship, crew, and potential colony world to make herself a dictator.

It's a fast read. It's got sex and grand jams and nifty aliens and fancy tech. If the characters aren't terribly complicated and the social resistance to new ideas disappears a little too quickly and conveniently, well, you can't have everything. And what you do have, as I said, is pretty satisfying.

If I may borrow a line first uttered by the long-forgotten Spiro Agnew, is George Zebrowski science fiction's nattering nabob of negativism? That certainly seems to be the message of his latest novel, **Stranger Suns**, despite an ending that tries hard to be relatively upbeat.

The tale begins as cold, withdrawn, loveless Juan Obrion operates a novel tachyon detector in a future that has abandoned all hope of future glory. Space stations are being filled with toxic wastes and booted into the sun.[2] Obrion is barely tolerated by a UN honcho, Titus Summet, in his search for extraterrestrial signals. But then Obrion gets a signal and tracks it to Antartica, of all places.

Later investigation reveals a huge spaceship buried in the ice. Obrion and friends enter to explore. It takes off. Obrion and friends learn that it is a part of a universe (not just galaxy)-spanning transportation network powered by stations hidden inside suns. There are "frames" that transmit people from ship to ship. One of the frames sends the human explorers back to Earth, to a second ship hidden in the Amazon.

[2]A fine case of criminal short-sightedness. Wastes—toxic, nuclear, whatever—are valuable resources if we use them right.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Unfortunately, the Earth to which they return is not quite the Earth they left. It is a variant, parallel Earth, differing in tiny details of probability. But it is an Earth with its own Obrion, Summet, and familiar problems.

Further exploration finds a string of variant Earths destroyed by nuclear war. More Earths use the alien network as a way to dispose of prisoners. All share the characters, who remain remarkably sane as they hop almost blithely from variant to variant, accepting changes in the numbers of their relatives or the personalities of their colleagues much as we do changes in the weather. They also share the problems that allow Obrion, stimulated by the evidence of aliens who achieved so mightily so long ago, to obsess endlessly and depressively about the human talent for screwing things up. Human welfare has improved, he admits, but only in tiny steps and temporarily, and it takes forever to get anywhere at all.

A less negativistic view would recognize that our species has only existed for something on the order of a hundred thousand years. Cities and writing are only 10,000 years old. The scientific method is only 300 years old. The "rights of man" idea and industrial society are even newer. That sounds to me like a constantly accelerating improvement in human welfare. Huge steps, not tiny. And temporary only because we haven't been around long enough to see whether the progress lasts. But then I'm a biologist who thinks slow progress is the three billion years it took to evolve a starfish from nothing at all. Fast progress is the 500 million years it took to turn that starfish into a human being. I find the pace of human progress in the species' mere fifty millennia astonishingly swift.

Be that as it may, the alien net is empty. There are no aliens. There are only their leavings, and thus an endless skein of speculations about what they thought and where they went and what it all means for human destiny. Here is mystery drawn explicitly parallel to the mysteries of religion and philosophy. Here is obsession for dry-stick negativistic philosophers such as Obrion even as more practical others—Lena, the woman who loves Obrion through all his variations; Summet; and more—find potentials for life.

Eventually, Obrion wises up a bit, and that is where the upbeat ending comes in. I won't spoil it for you, though I will note that it does confirm those aspects of Zebrowski's thinking that have led such SF luminaries as Arthur C. Clarke to compare him to Olaf Stapledon.

I found *Stranger Suns* interesting. Yet I did not greatly enjoy it. One problem is that the characters are difficult to sympathize with and hence believe. Another is the speculations that transform miraculously to accepted fact. Still another is the great wads of philosophical lecturing that stop the story cold at times.

Yet it is still interesting. And what puts me off may be just your cup of tea.

There are a few signs in the marketplace that books may be running into a price wall. Hardbounds now routinely exceed $20 in price. Paperbacks are quivering in the $4.95, $4.99, $5, even $5.50 range. And some publishers seem to be looking for ways to bring the prices down again. I think of Pulphouse's slim paperbacks, each containing a single short story or novelette, for just $1.95.

And then there are novellas, roughly half the size of an ordinary novel. Pulp-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

house has those available too, but not that cheaply. TOR has been publishing two-in-one packages. And now St. Martin's brings us one novella, hardbound, for $14.95. It makes a slim book, but if slim is the only way to bring the price down . . .

The book in question is Greg Bear's **Heads**, first published in England in 1990. The tale is set on the Moon, where human culture is structured in terms of clan-like Bonded Multiples. The Sandoval BM has a member, William, who thinks he can achieve absolute zero. His wife, Rho, has just returned from Earth with a shipment of frozen heads, including those of the Sandoval BM's founding couple; she thinks she can use cutting-edge techniques to scan their memories; and she wants to attach her project to his since he has the freezers, after all. Very shortly, the president of the lunar council, who belongs to a BM with close ties to a religious group modeled explicitly on Scientology, takes steps to paralyze Rho's efforts.

Why should the Logologists give a rille? The astute reader immediately suspects that the 410 heads must include that of the sect's reclusive founder and that the Logologists are less than thrilled to think that anyone not suitably committed to their Big Lie should have access to the founder's true thoughts. Such a reader would be quite right. Thus although *Heads* is as readable and entertaining and polished as ever one could expect from Bear, its essential nature as a Cheap Shot means that we have to call it minor work.

Mike Resnick, award-winning SF novelist whose *Santiago* is on the verge of filming, has added a pair of feathers to the anthologist side of his cap. The first is **Inside the Funhouse: Science Fiction About Science Fiction.**

The title says it all, doesn't it? What Resnick has done is to gather together one Jane Yolen poem and sixteen stories by the likes of Barry Malzberg, Avram Davidson, Philip K. Dick, Isaac Asimov, Ian Watson, Frederik Pohl, Edmund Hamilton, George Alec Effinger, and even himself. There's kvetching about the way the field devours its writers (Malzberg's grand "Corridors") and the frustrations of being original (Jack Lewis's "Who's Cribbing?") and of being rejected (Patricia Nurse's "One Rejection Too Many" and Eric Norden's "The Curse of Mhondoro Nkabele"). There are tales about conventions (Pohl and Watson), automation (Asimov), Shakespeare (Frank Ramirez), and prophecy (Dick). For some reason, he did not include any of the several stories that have been written about writers selling their souls to the devil for a best-seller.

Do you want the book? Its stories are clever and entertaining enough, but only two have anything to say that one might call profound. One is Malzberg's "Corridors," which tells us that SF writers serve "the mystery and power of what might have been" and "while given breath we sang until it drew the very breath from us and extinguished our light forever." The other is Frederik Pohl's and C. M. Kornbluth's "Mute, Inglorious Tam," in which a medieval serf has dreams that might, centuries later, make him a SF writer. In his time and place, however, he has no hope of fulfillment; dreams require a receptive audience.

Resnick's second anthology is **Alternate Presidents**, published—and with malice aforethought—just in time for an

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

election year. The idea was to turn writers loose with the US presidential election of their choice, to write what might have been if someone else had won. The result is 28 stories (not every election got covered), all of which are competent enough. Not surprisingly, there's a great deal of emphasis on politicians and generals and the interest level grows as the election dates approach the present, and the history under consideration becomes history in which the reader has a personal stake. As a rule, the stories stick far too close to the time of their election and/or to conventional history to be terribly interesting, but there are a few that thoroughly trash that rule. The best tale in the book—Susan Shwartz's "Suppose They Gave a Peace . . . "—posits a McGovern victory in 1972 and a quick withdrawal from Viet Nam; it will bring tears to your eyes and, even if you hate all the rest, make you feel that your money was well spent. Other stand-out efforts include Pat Cadigan's "Dispatches from the Revolution," a potent recap of 1968-Chicago liberal paranoia; David Gerrold's "The Impeachment of Adlai Stevenson," another comment on a time when liberals were in bad odor; Barry N. Malzberg's "Kingfish," which has President Huey Long striking deals with Hitler, and "Heavy Metal," that will surely offend all who hold dear the memory of JFK; Tappan King's "Patriot's Dream," has a vision and the touch of a good woman turn Samuel Tilden into a liberal and advance the cause of social justice by decades; and Martha Soukup's "Plowshare," which replaces William Jennings Bryan's Cross of Gold with a new symbol. Mike Resnick's own "The Bull Moose at Bay" gives Teddy Roosevelt a second term in 1912; his daughter Laura's "We Are Not Amused" presents Queen Victoria's reaction to the goings-on in the presidency of radical feminist Victoria Woodhull (who favored free love, women's suffrage, short skirts, legalized prostitution, and the right of women to orgasm). There is also my own "Black Earth and Destiny," which concerns George Washington Carver.

Last month I mentioned that Rudy Rucker is now working for the Autodesk software company on fractals and cyberspaces. At the same time, I sent off a signal that he should send me copies of the programs.[3]

And it wasn't long at all before my mailbox held copies of both **James Gleick's Chaos, the Software** and **Rudy Rucker's Cellular Automata Laboratory**. The first, like the Fractint freeware I also mentioned last month, displays the Mandelbrot and related sets (including the "Rudy" set). It's slower than Fractint and it gives you access to fewer different types of images, but the resolution is better and you can manipulate the images in some ways that Fractint does not allow. In addition, the manual gives you much more information on the mathematics behind the phenomenon you're playing with.

But Chaos goes further. With it, you can have fun with pendulums and magnets, study strange attractors, play the Chaos game, which allows you to create and manipulate fractal images (Fractint does this too, but less satisfactorily), create fractal landscapes (*much* more slowly than Fractint), and explore cellular automata (in effect, a simple version of the CA Laboratory, and not in Fractint at all). The program is thus not a bad buy at all for $59.95. It's for IBM-compatible computers only; it works best when the computer has a math

[3]Free software is more fun than free books!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

coprocessor chip (so does Fractint); and it works with or without a mouse. It comes packaged on two 3.5-inch disks and on four 5.25-inch disks, and it will take up over 1.6 megabytes on your hard disk (it will also run floppies, though more slowly and awkwardly).

Rudy Rucker's Cellular Automata Laboratory is an ultimate evolution of the old game of Life. The basic gimmick is to make the state (on, off, red, green . . .) of each element of an image depend on the states of its neighbors. You begin by defining a rule, and then you turn that rule loose on a photo, a drawing, or a screen full of random hash. Sometimes the results are more hash. Sometimes they are surprisingly beautiful geometric wonderlands.

But there's only so much you can get out of staring at the images generated by other people's rules and initial patterns, even if those images are the sorts of things that make one think that if PCs and Fractint and Chaos and CA Lab had been available back in the sixties, the hippies wouldn't have needed acid. Happily, the CA Lab allows you to make your own patterns for the rules to work on. It also allows you to make up your own rules, though that requires some programming skills; there is support for BASIC, PASCAL, and C programmers. The manual provides a fair amount of background theory and history.

This too is a good buy for $59.95, for IBM-compatibles only, and on two 3.5-inch disks (and four 5.25-inch disks); it will take up nearly a megabyte on your hard disk (it will also run from floppies). Do you want it? If you're only getting acquainted with cellular automata, that portion of the Chaos package will probably meet your needs. Do you want Chaos? Fractint is free (see last month's column for how to get it) but it doesn't do as many things, though it does what it does better in some ways than Chaos.

What the heck. This is the January issue of the magazine. You're reading it before Christmas. So you've got time. And either Chaos or the Lab would make absolutely astonishing gifts for the young hacker in your family. Or for yourself.

And in case you think it queer to find software reviews in a book review column, I do like to vary the mix a little. Popular science is by no means a stranger here, and I did break the software ice when I started talking about cyberbooks. If the software publishers send me more programs that tickle my fancy and that I think might appeal to science fiction readers, I'll stir software into the pot again. ■

●Airplanes are interesting toys, but of no military value.

Maréchal Ferdnand Foch, 1911

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

(Brass Tacks continued from page 161)

In order to generate sulfur*ic* acid (H_2SO_4), sulfur *trio*xide (SO_3), must be used to combine with water (H_2O). This is basic, high-school level chemistry. I'm surprised that someone on the editorial staff didn't spot it, but I'll bet your readers will!

JOSEPH R. GATELY

St Petersburg, FL

Oops! we try to catch them all, but occasionally one does sneak by. And painful as it may be, we do appreciate having them pointed out when it happens.

Dear Dr. Schmidt,

In "The Self-Clogging Escape Valve" you respond to the criticism leveled at your earlier editorial, "Missing Ingredient." Your responses indicate that either you do not really understand likely technological developments or that you have not fully incorporated them into your thinking.

You pretend to understand that nanotechnology's limits are "way beyond the ones we're used to," yet you think that the problem of transporting 230,000 people from Earth to space every day and constructing habitats for 87 million people a year would be difficult "even with nanotechnology in its most optimistic form." I know that you are aware of the properties of self-reproducing automata, yet you consistently underrate their capabilities. Moving the entire human population off the Earth into ultra-luxurious space habitats with thousands of times the surface area of Earth would be trivial for "nanotechnology in its most optimistic form." Mature nanomachines in space, with access to asteroids and satellites for raw material and the Sun's radiation for power, could scale up to tackle much larger projects within a few months.

You talk about "the energy requirements of each such launch" and of "getting the passengers to the spaceport." Are you implying that access to space will always be done using rockets or other vehicles launched from spaceports? Don't you read your own magazine? Don't you read the literature and attend conferences? Certainly the task you are describing would not represent a serious energy drain if tethers were used. It is essential when looking at the future to free yourself of assumptions based on current practices. But what about the ultimate restrictions of natural law?

1. You quote Eric Drexler that the resources of the Solar System are sufficient for a few thousand years of unrestrained population growth. Extrapolating the situation and limits of our descendants a thousand years into the future is impossible. Given the exponentially increasing developments in biotechnology, computer science, and nanotechnology we don't know if our descendants two hundred years from now will resemble us in any respect, let alone our descendants a thousand years from now. We can fantasize about people living in cyberspace or having bodies of pure energy, but we don't have enough information to make educated guesses about what such a remote future will bring.

2. You amplify Drexler's argument that unrestricted population growth must eventually run into physical limits. I first read this argument in an essay by Isaac Asimov. It is simple to counter: Instead of assuming that human beings are filling an expanding volume, let them occupy an expanding shell; for example, a shell of mobile space habitats. In the reference frame of the inhabitants of the shell they can expand as fast as they like. Assuming that the Universe is

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

infinite, which is consistent with current mass density estimates, they could sustain exponential growth indefinitely without running into any fixed limits.

3. The current model of population growth is people having children who become independent adults. This model predicts an exponentially expanding population if births exceed deaths. But what if the descendants of humans had the ability to merge with another person to create one individual? A society which practices merging can also practice unlimited child bearing without any deaths and not experience exponential growth. There are a number of technological developments which would allow for merging.

Human beings in first-world countries are now experiencing population growth rates well below replacement levels. This "demographic transition" is consistent with sociobiological theory; it results from the flexible strategies that all higher mammals exercise for optimizing their reproduction under favorable conditions. Population growth is slowing in almost all countries that have not yet passed through the demographic transition.

There is ample reason to think that development can catch up with the whole race within the next two decades. Instead of talking about the need to limit our growth, we should provide family planning services allowing individuals to choose their family size. We need to protect the Earth's remaining wildlands and to provide third-world farmers with modern "appropriate" farming technology. We must provide clean water, basic health care, and a good education. Since our technological capabilities will increase faster than population growth these tasks will become easier as time goes on, but any delays will result in needless tragedies.

You express concern about quality of life. Talking about limited resources and controlling growth creates the kind of zero sum mentality that sustains the world's inequalities. If there's not enough to go around, I'd better make sure that I get what I can and keep others from becoming powerful enough to take any of it away. Instead we should be spreading the word that there is enough to support a luxurious lifestyle for everyone on and off the planet for the forseeable future. This kind of speaking causes people to be generous and interested in finding real solutions to the problems. Science fiction is one of the most effective vehicles for spreading this important news and you are the editor of the most influential science fiction magazine in the world. Science fiction is the last domain where a narrow perspective on the future is appropriate.

J. GREG DAVIDSON

San Diego, CA

OK, your "most optimistic" is more optimistic than some other people's "most optimistic," and you're right that the future may (and probably will) bring plenty of developments and abilities that we can't anticipate in detail. I never denied that. Nor did I imply that "access to space will always be done using rockets . . . ," or advocate a "zero-sum mentality."

However, you seem to advocate an "infinite-sum mentality" which encourages blatant recklessness. Yes, we should be able to achieve wonders in the future that we haven't been able to approach in the past. But populations outstripping their ability to support themselves are a problem right now. *By all means, let's grow and spread—but let's learn how to handle it* first, *rather than reproducing like rabbits with blind faith in miracles we* may *someday learn to perform!*

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Dear Stan,

I just finished reading Harry Turtledove's serial *The Great Unknown*, and absolutely could not restrain myself from comment: I am amazed at the lengths to which we science fiction writers will go to pay homage to our peers and mentors. Now, I have been known to name planets and ships after the folks we all know and love, or to drop their names into my stories in other unsubtle ways but, Harry, you take the quasar.

I have always been interested in where other writers get names for OROM characters (that's Other Race of Men—"aliens" seems so arrogant). Because of this, I tend to dissect those names whenever I come across them. You cannot imagine my surprise (and, yes, delight) when I found that you had done some very clever things with the names of the Foitani from Rof Golan. I refer, of course, to *Nhoj W Vomisa* and *Eugarps L Pmaked*.

The latter name, in case no one else noticed, is an anagram for *L. Sprague DeCamp*. (It reverses as *DeKamp L Sprague*.) The former is a bit trickier. There is, to my knowledge, no SF writer named *John W. Asimov*, but there are John W. Campbell and Isaac Asimov, so I assume *Nhoj W Vomisa* is an anagram for those combined names.

Oh, and there is also the matter of the name for this foul-tempered race: *Rof Golani*. That, flipped into reverse, is *forinalog* (for *Analog*?). Harry, dare I suspect that you knew exactly who was going to get *The Great Unknown* even as you wrote it? Or is there another version somewhere in which that race is rendered *Rof Vomisa*?

I must admit that while I reacted to the discovery of these little gems as if someone had told a very bad pun (or a very good pun, depending on how you look at it), I enjoyed finding them immensely.

So, Harry Turtledove, pray continue mining your work with such devices whenever they fit. They do not detract from the story and make the reading even more pleasurable.

On a more serious note, I'd like to thank you, Harry, for putting into a story what SF writers have been trying to tell the critics for years—that the genre can serve an important function in society. I believe it can also embody concepts and ask questions about humanity that cannot be handled by other genres.

How can mainstream, for example, explore how human beings will react to the discovery of *other* human beings who are not *Men*, that is, who are not from Earth and do not have Earth evolved physiologies or intelligences? How can that literary genre extrapolate on how individuals might adapt to life in alien environments, including our own oceans?

In the workshops I give, I focus some attention on the role of science fiction as the bearer of warnings and promises—a role for which it is very well suited. This story will now go on the reading list I give the participants during those workshops.

On an even more serious note, I felt it a sad commentary that *The Great Unknown* extrapolates a far distant future in which a woman's value will still ultimately depend on how she looks and performs in a sexual context. I can only hope that bit of forecasting was a warning, not a promise.

MAYA KAATHRYN BOHNHOFF

P.S. Also, many plaudits for the inspirational short story "Gladly Wolde He Lerne." Well said—and wolde that it were true. ■

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

INDEX

Here is the Index to *Analog*'s sixty-second year: 1991, Volume 111. Entries are arranged alphabetically by author, with month and page. (There were two issues in December, abbreviated Dec and Mid-D.) When the author's name and/or part of the entry's title is omitted, it is the same as that of the previous entry. Collaborations are listed under all authors, with cross-references. Unless otherwise noted, each entry is identified as a novel (nov), serial (ser), novella (na), novelette (nt), short story (ss), fact article (fa), Probability Zero (pz), editorial (ed), Alternate View (AV), or special feature (sf).

Anderson, Kevin J. (fa) Beating Warheads Into Plowshares Sep 41
Ash, Paul (na) Man Opening a Door June 140
Asimov, Isaac (nt) Gold Sep 10
Austin, A.J. (ss) Severing Ties Aug 89

Baker, David A. (& Robert M. Zubrin) (fa) Mars Direct: A Proposal for the Rapid Exploration and Colonization of the Red Planet July 77
Barnes, John (na) Canso de Fis de Jovent Jan 188
Bechtel, Amy (nt) A Story of Saint Brigit Jan 224
—— (ss) Business as Usual ... July 126
Bohnhoff, Maya Kaathryn (ss) Hobbits Feb 102
—— (nt) Home is Where . . . . Nov 132
—— (ss) If it Ain't Broke . . . . Jan 124
Brejcha, F. Alexander (nt) Defect? June 108
—— (nt) I'll Show You Mine If . . . Apr 76
Brunner, John (nt) Ada Wilkins On-Line During Down Time June 86
Bujold, Lois McMaster (ser) Barrayar (Part I of IV) ..... July 12
—— (ser) (Part II of IV) ..... Aug 104
—— (ser) (Part III of IV) ..... Sep 104
—— (ser) (Conclusion) ..... Oct 10
Burkhead, David L. (nt) The Future is Now Apr 106
Burns, Stephen L. (ss) A Roll of Round Dice Mid-D 51
Busby, F.M. (ss) Conquest ..... Apr 97
—— (ss) Eden Regained ..... Mar 96

Canough, Dr. Gay E. (& Dr. Lawrence P. Lehman) (fa) What Goes Around, Comes Around: What to Do About Space Debris? ..... Mar 54
Card, Orson Scott (nov) Gloriously Bright ..... Jan 12
Carr, Jayge (ss) Kingdom of the Blind ..... July 194
Cartier, Francis (ss) The Day the Signals Started ..... Mar 68
Chase, Robert R. (ss) The Shrieking of the Nightingale ..... Nov 90
—— (nt) *Try a Light Touch* .... Mid-D 10
Chilson, Rob (& William F. Wu) (nt) Distant Tigers ..... July 100
Coad, Brian C. (nt) Hurricane Zosie and the Controversial Scotsman ..... July 224
—— (ss) Stabilizing Gamma Prime ..... Jan 238
Cramer, John G. (AV) Cosmic Voids and Great Walls ..... Aug 100
—— (AV) Mega-Projects & -Problems: The Hubble in Trouble ..... Feb 122
—— (AV) Quantum Telephones to Other Universes, to Times Past ..... Oct 114
—— (AV) Quantum Time Travel Apr 129
—— (AV) RHIC: Big Bangs in the Lab ..... June 135
—— (AV) Super-Heavy Neutrinos: Who Ordered That? .. Dec 116

Dalmas, John (nt) A Most Singular Murder ..... Apr 138
Davenport, Marc (fa) Hydrogen Time ..... Feb 87
De Vet, Charles V. (nt) Third Game ..... Feb 54
Delaney, Joseph H. (nt) Nugget Jan 268

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Dorn, Geoffrey A. Ph.D., (& Ronald V. Dorn, Jr. M.D.) (fa) Protecting Humans from Ionizing Radiation in Space ..... Mid-D 34
Dorn, Ronald V., Jr. M.D. (& Geoffrey A. Dorn, Ph.D.) (fa) Protecting Humans from Ionizing Radiation in Space ..... Mid-D 34

Easton, Tom The Reference Library ..... Jan 303
—— ..... Feb 176
—— ..... Mar 179
—— ..... Apr 178
—— ..... May 178
—— ..... June 178
—— ..... July 305
—— ..... Aug 162
—— ..... Sep 161
—— ..... Oct 161
—— ..... Nov 162
—— ..... Dec 161
—— ..... Mid-D 159
Eckert, Charles D. (nt) And God Bless Robert E. Lee ..... Nov 96
Ecklar, Julia (ss) A Sweet Disorder ..... Sep 56

Flynn, Michael F. (ss) Spark of Genius ..... Jan 139
—— (ss) The Blood Upon the Rose ..... Feb 48
Fogg, Martyn J. (fa) Once and Future Mars ..... Jan 109

Gillett, Stephen L., Ph.D. (fa) Refueling a Rundown Planet ..... Aug 81
Goodloe, Lee (& Jerry Oltion) (na) Contact ..... Nov 12
Gribbin, John (fa) Whatever Happened to the Little Ice Age? ..... Dec 70

Haldeman II, Jack C. (ss) Enemy of the State ..... Aug 78
Halverson, Mark O. (nt) By a Waterfall ..... May 50
Hatch, Daniel (ss) Childhood Escapade ..... Feb 128
—— (nt) Den of Sorrow ..... Mar 12
—— (nt) Den of Wolves ..... July 140
—— (nt) Intervention at Hellas ..... May 12
Hecht, Jeff (fa) Global Catastrophes and Mass Extinctions ..... May 78
—— (ss) The Greenhouse Papers ..... Nov 126
Hoffman, Nina Kiriki (& Jerry Oltion) (ss) Floor in Landida ..... Dec 76
Howe, Bob (nt) Time Out of Mind ..... Mar 124

Johnson, Bill (ss) Evelyn's Children ..... Dec 104
Johnson, Steven G. (ss) Exodus ..... May 126

Klein, Jay Kay (Biolog) "Anne McCaffrey" ..... Aug 77
—— "Daniel Hatch" ..... July 253
—— "Julia Ecklar" ..... Sep 71
—— "Laura J. Mixon" ..... Mid-D 158
—— "Rick Shelley" ..... Jan 180

Landis, Geoffrey A. (fa) Starships, Robots, and Space Travel for the Next Millennium ..... Apr 65
Latner, Alexis Glynn (nt) The Listening-Glass ..... Feb 14
Lehman, Dr. Lawrence P. (& Dr. Gay E. Canough) (fa) What Goes Around, Comes Around: What to Do About Space Debris? ..... Mar 54
Lerner, Edward M. (ss) What a Piece of Work is Man ..... Feb 111
Lyon, Richard K. (pz) A Logical Answer to "Where is Everybody?" ..... Dec 136

MacIntyre, F. Gwynplaine (sf) Oops! ..... Mar 178
McCaffrey, Anne (na) Rescue Run ..... Aug 12
McLaughlin, Dean (na) Ode to Joy ..... July 254
Miller, Mark (pz) Split End ..... Nov 87
Mixon, Laura J. (ser) Glass Houses (Part I of II) ..... Dec 10
—— (ser) (Conclusion) ..... Mid-D 112
Moscoe, Mike (ss) Summer Hopes—Winter Dreams ... Mar 149

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Nordley, G. David (nt) A Calendar of Chaos ..... Dec 140
—— (ss) The Snows of Venus May 90

Oltion, Jerry (ss) Red Alert ..... Oct 91
—— (ss) The Scents of Compulsion ..... Mid-D 62
Oltion, Jerry (& Lee Goodloe) (na) Contact ..... Nov 12
Oltion, Jerry (& Nina Kiriki Hoffman) (ss) Floor in Landida Dec 76

Patterson, Kent (ss) Barely Decent ..... Oct 100
—— (nt) Creative Constructions, Inc. ..... Mar 76
Plauger, P.J. (ss) Of the Last Kind ..... Apr 134

Resnick, Mike (sf) Classifieds ... July 191
Robertson, Donald F. (fa) Commercial Space: The New Cold War ..... Nov 72
Robinson, Paula (nt) No Time Like the Present ..... Sep 72
Rollins, Grey (nt) A Bargain at Any Price ..... May 96
—— (nt) Magnolias, Mint Juleps, and the Moon ..... Feb 144
—— (nt) The Victor ..... Jan 250

Saari, Julian (ss) Side Effects .. Aug 159
Sakers, Don (ss) Purgatory ..... Sep 97
—— (ss) The Cold Solution .... July 211
Sandford, Scott (ss) Stinker Station ..... June 124
Schmidt, Stanley (ed) A Speedy Trial ..... Dec 4
—— (ed) Continuity ..... Aug 4
—— (ed) Ex Machina ..... Apr 4
—— (ed) Experience Required Oct 4
—— (ed) Foolproof ..... May 4
—— (ed) How-To ..... Sep 4
—— (ed) Mass ..... Nov 4
—— (ed) Primitive Machines .. Mar 4
—— (ed) Say When! ..... Feb 4
—— (ed) The Camera as Weapon ..... July 4
—— (ed) The Perils of Victory Mid-D 4
—— (ed) The Self-Clogging Escape Valve ..... June 4
—— (ed) Your Rights, Whether You Want Them or Not .... Jan 4
Sheffield, Charles (fa) The Mote in NASA's Eye ..... Oct 78
Shelley, Rick (nt) Eyewall ..... Jan 146
Soty, Francis Marion (ss) Call to Glory ..... Nov 113
Steinberg, Steven J. (nt) Pen, Inc. ..... Mid-D 70
Stine, G. Harry (AV) Jellyware-Friendly ..... Sep 100
—— (AV) Junk, Cultch, and Tools ..... Nov 122
—— (AV) Quality ..... May 122
—— (AV) Radar and Lasers, Chow and Rock ..... July 220
—— (AV) Technology and Fun Mid-D 92
—— (AV) The Kiss of Death ... Mar 104
—— (AV) Travel and Tourism . Jan 184
Strumfels, David J. (nt) Past, Present, and Future ..... Dec 86
—— (pz) Uncertainty Exchange June 105

Terra, Richard P. (fa) Islands in the Sky: Human Exploration and Settlement of the Oort Cloud ..... June 68
Turtledove, Harry (ser) The Great Unknown (Part I of III) ..... Apr 10
—— (ser) (Part II of III) ..... May 134
—— (ser) (Conclusion) ..... June 12
—— (ss) Gladly Wolde He Lerne ..... Jan 181

Ulowetz, J.H. (ss) An End to Darkness ..... Mar 108

Watt-Evans, Lawrence (nt) Science Fiction ..... Mar 158
Wheeler, Wendy (ss) The Black Mother ..... Mid-D 96
Wu, William F. (& Rob Chilson) (nt) Distant Tigers ..... July 100

Zahn, Timothy (na) Guilt by Association ..... Oct 120
Zettel, Sarah (ss) Driven By Moonlight ..... Dec 122
Zubrin, Robert M. (& David A. Baker) (fa) Mars Direct: A Proposal for the Rapid Exploration and Colonization of the Red Planet ..... July 77

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

a calendar of analog upcoming events

3-5 January
ARISIA '92 (Boston-area SF conference) at Boston Park Plaza Hotel and Towers, Boston, Mass. Guest of Honor—Craig Shaw Gardner, Artst Guest of Honor—Robin Wood, Masquerade MC—Marty Gear, Featured Filk Guest—T.J. Burnside Clapp. Registration—$25 until 6 weeks before the con, $35 at the door (attendance limited to 1500). Info: Arisia, Inc., Suite 322, 1 Kendall Square, Cambridge MA 02139.

3-5 January
EVECON 9 (DC area SF conference) at Holiday Inn Crowne Plaza, Crystal City, Va. Info: Evecon 9, % FanTek, 1607 Thomas Rd., Ft. Washington MD 20744. (301) 292-5231.

17-19 January
SERCON 6 (Serious literary-oriented SF conference) at Wyndham Southpark Hotel, Austin, Tex. Guest of Honor—Jonathan Carroll. Registration—$30 until 31 December. Info: Sercon 6, Box 9612, Austin TX 78766. (512) 835-9304 (until 10 pm CT). Checks payable to FACT.

17-19 January
CHATTACON 17 (Tennessee SF conference) at Read House, Chattanooga, Tenn. Guest of Honor—Leo Frankowski, Fan Guest of Honor—Samanda Jeude, Special Guests—Lawrence Watt-Evans, Mercedes Lackey, TM—C.J. Cherryh. Registration—$25 until 1 January 1992, $30 thereafter. Info: Chattacon 17, Box 23908, Chattanooga, TN 37422. (404) 578-8461.

24-26 January
BASH '92 (Boston-area Star Trek™ convention) at the Sheraton Tara, Braintree, Mass. Guest of Honor—Colm Meaney. Registration—$35 ($20/day) until 1 November 1991; $40 ($25/day) thereafter and at the door. Info: Bash Conventions, % Boston StarTrek Association, Inc., Box 1108, Boston MA 02103-1108. Include SASE. (617) 894-BSTA.

14-16 February
BOSKONE 29 (New England area SF conference) at the Sheraton Monarch Place & Springfield Marriott Hotels, Springfield, Mass. Theme—"The Art and Practice of Storytelling." Guest of Honor—Jane Yolen, Official Artist—Jody Lee, Special Guest—Dave Langford. Registration—$29 in advance, $40 at the door. Info: Boskone 29, Box G, MIT Branch PO, Cambridge MA 02139-0910.

3-7 September
MAGICON (50th World Science Fiction Convention) at Orange County Civic & Convention Center, Orlando, Fla. Guest of Honor—Jack Vance; Artist Guest of Honor—Vincent Di Fate; Fan Guest of Honor—Walter A. Willis. Registration—$85 adult/$45 child until 30 September 1991, Supporting—$25. This is the SF universe's annual get-together. Professionals and readers from all over the world will be in attendance. Talks, panels, films, fancy dress competition—the works. Join now and get to nominate and vote for the Hugo Awards and the John W. Campbell Award for Best New Writer. Info: MagiCon, Box 621992, Orlando FL 32862-1992. (407) 275-0027. UK agent Peter Weston, 72 Beeches Drive, Erdington, Birmingham B24 0DT UK.

29 October-1 November
WORLD FANTASY CONVENTION at Callaway Gardens, Pine Mountain, Ga. Limited membership. Registration—$100 in advance. Info: World Fantasy Convention 92, Box 148, Clarkston GA 30021 (include SASE).

—Anthony Lewis

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

MAIL ★ ORDER ★ MALL

CUTLERY: A CUT ABOVE THE REST

The secret behind Regent Scheffield's new Laser 2000's cutlery is the unique machined edge guaranteed to stay super sharp for 25 years without sharpening! The result is a knife so sharp and durable that it comes with an unmatched guarantee: If a Laser 2000 knife ever dulls, chips, rusts, or breaks during the next 25 years, Regent Sheffield will replace it FREE! Plus, the Laser 2000's blades have a unique nonstick Xylan coating, so slicing even hard vegetables is a snap. And clean-up is a cinch because food doesn't stick to the blades. Unbreakable, dishwasher-safe handles are contoured to fit your hand comfortably. A lovely sleek wood block holds the entire 5 piece set: bread knife, carving knife, cook's knife, utility knife, and paring knife. **$129.98** ($7.00) #A1933.

THE MAGICAL SPARE BED

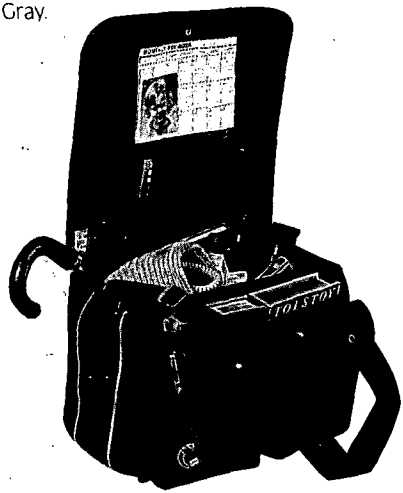
It's almost like pulling an extra bed out of a hat. Unlike most spare beds that bobble up storage space and are unwieldy to move, this one rolls down to fit a 36"-long, 3"-diameter canvas case, to stash in a closet corner, car trunk, camper, anywhere. Yet it unrolls in minutes to a full-size 77" x 73" bed that will even accommodate 6 footers, supports up to 500 pounds and is comfortable to boot. The secret's in the inventive construction: a cotton canvas sling is supported on laminated steel legs with 6 steel springs for cushioning and stability on rough ground. Toss the carrying strap over your shoulder and go — camping, beach, poolside; the 10" legs keep it off damp ground and sand. Of course, this bed is indispensable at home, country home, dorm — even for kids in motel rooms. A superb value at **$61.98** ($12.25) #A1931.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

MAIL ★ ORDER ★ MALL

▼ EVERYTHING BAG

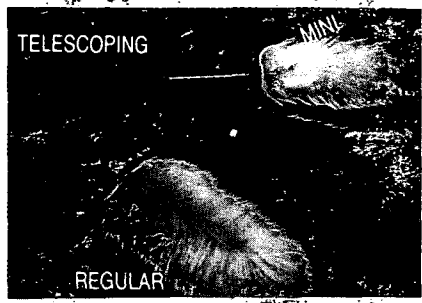
People on the go always have so much to carry around. The Everything Bag makes it a snap. This oversized shoulder bag is constructed of tough, water-resistant canvas material and features nine roomy pockets. Plus, an unusual zipper design enables the bag to expand to double its normal width—to a full eight inches. Adjustable 2" wide straps provides a real comfort feature. In 3 great colors. **$24.98** ($4.00) #A1955-Blue; #A1956-Khaki; #A1957-Gray.



TO ORDER: Send check with item number for total amounts, plus shipping & handling shown in ( ) payable to **MAIL ORDER MALL**, Dept. 012 AN ; P.O. Box 3006, Lakewood, N.J. 08701, or call TOLL FREE **1-800-722-9999.** NJ residents add 6% sales tax. We honor MasterCard/Visa. Sorry, no Canadian, foreign, or C.O.D. orders. Satisfaction Guaranteed. 30 day money back guarantee for exchange or refund. Allow 30 days for delivery.

Magalog Marketing Group Inc. © 1990
1905 Swarthmore Ave., Lakewood, N.J. 08701

▼ LAMBSWOOL DUSTERS



Lambswool contains a natural static charge that makes dust literally leap off surfaces. Our dusters are imported from England. They are the fluffiest, highest quality lambswool in the world! We offer a set of four lambswool dusters: our 27" duster, our telescoping duster which extends to more than four feet—lets you reach high corners, top shelves, overhead lights and collapses to 28", and two mini dusters **$22.98** ($4.00) #A1870.

▼ TALKING ALARM CLOCK

Tired of waking up to an annoying buzz? Why not awake to a crowing rooster and time report! Our battery operated talking alarm clock announces the hour and gives the time with the push of a button! Sleek design in white with LCD readout! Takes 4 "AA" batteries (not included). 5½"x 3"x4". **$27.98** ($4.50) #A1916.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED